

In the Matter of:)	
)	
Examining Critical Issues)	
in the Licensing of Thermal)	Docket No.
Power Plants and Related)	00-SIT-2
Facilities)	
<u> </u>)	

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

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Robert Pernell, Associate Member

Scott Tomashefsky

Rosella Shapiro

STAFF PRESENT

Chris Tooker

Richard Buell

Al McCuen

Jim McCluskey

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Manho Yeung
Pacific Gas and Electric Company

Jeff Miller
California Independent System Operator

Dave Korinek
San Diego Gas and Electric

Morteza Sabet
Western Area Power Administration

James Leigh-Kendall
Sacramento Municipal Utility District

Jack Pigott
Calpine Corporation

Eddy Lim
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ALSO PRESENT

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1 P R O C E E D I N G S

2 10:10 a.m.

3 PRESIDING MEMBER LAURIE: Ladies and
4 gentlemen, good morning. My name is Robert
5 Laurie, Commissioner at the Energy Commission.
6 And I'm Presiding Member of the Commission's
7 Licensing Committee.

8 My colleague on the Committee,
9 Commissioner Robert Pernell, will be joining us
10 shortly. The lady on my right is Ms. Rosella
11 Shapiro, Commissioner Pernell's Senior Adviser.
12 And to my left is Mr. Scott Tomashefsky, my Senior
13 Advisor.

14 As you may be aware the Committee has
15 been holding a series of workshops on the subject
16 of potential barriers to the licensing of bulk
17 power plants in California. And certainly the
18 issue before us has a potential to be such a
19 barrier. Thus, the purpose for our discussion
20 today.

21 What we intend to do is incorporate the
22 remarks of you all into a report that we'll issue
23 as soon as we can get around to it. Because
24 there's no legislative mandate as to either doing
25 this report or the date upon which it is to be

1 done, we scheduled to be completed and published
2 in April, subject to being sent away on licensing
3 hearings. But that is our plan.

4 Very much appreciate your time and
5 looking forward to your input.

6 At this time I'd ask our Chief Staff
7 Adviser, Mr. Chris Tooker, to introduce the
8 subject and if you all are ready to go, we'll
9 start. Chris.

10 DR. TOOKER: Good morning. Good
11 morning, Commissioner Laurie. As you point out
12 this is one of a number of workshops. I'm here
13 today because the Project Manager, Rick Buell, his
14 father just had a medical emergency and so he's
15 out of the office for the day. So I will be
16 coordinating this morning's session.

17 We have a number of speakers here today,
18 and I would like to go around and have individuals
19 introduce themselves. And then we will start off
20 with a brief staff overview of the staff paper
21 prior to the panel discussion, panel 1 on
22 transmission line interconnection.

23 If we can start to my left.

24 MR. MILLER: Good morning, I'm Jeff
25 Miller with the California ISO.

1 PRESIDING MEMBER LAURIE: Good morning,
2 Mr. Miller.

3 MR. McCLUSKEY: I'm Jim McCluskey with
4 the California Energy Commission.

5 MR. YEUNG: Manho Yeung, Transmission
6 Planning with Pacific Gas and Electric Company.

7 MR. SCHEUERMAN: Paul Scheuerman,
8 private consultant on behalf of the Energy
9 Commission.

10 MR. KORINEK: Dave Korinek, with San
11 Diego Gas and Electric, Grid Planning.

12 MR. SABET: Good morning. Morteza
13 Sabet, Western Area Power, Transmission Planning
14 and Operation.

15 PRESIDING MEMBER LAURIE: Thank you,
16 sir.

17 MR. LEIGH-KENDALL: Good morning, my
18 name is James Leigh-Kendall with SMUD, Sacramento
19 Municipal Utility District.

20 PRESIDING MEMBER LAURIE: Just a note of
21 caution. We invested a significant amount of
22 money in our communications system and it doesn't
23 work. You have to get really close to those
24 microphones to pick you up, either up here or in
25 the audience. So I would ask you to get really

1 close and personal with your microphone.

2 DR. TOOKER: Thank you. Before we
3 proceed, Sandra Fromm is going to be managing our
4 power point presentations for us today. I believe
5 at this point we have the electronic copies of
6 those that are going to present them. And if you
7 have a power point presentation here with you
8 today that you haven't given us yet, make sure
9 Sandra has that.

10 Also make sure that Sandra has copies,
11 hard copies of all your presentations for our
12 docket file.

13 PRESIDING MEMBER LAURIE: And who are
14 the primary authors of staff's paper?

15 DR. TOOKER: The primary author of the
16 staff paper is Jim McCluskey, with support from
17 Aspen. And Jim will be providing an overview of
18 the paper before we proceed with the discussion.
19 Jim.

20 MR. McCLUSKEY: I'm just going to read a
21 brief overview of the paper.

22 The purpose of this workshop is to
23 help --

24 (Off-the-record discussions.)

25 MR. McCLUSKEY: All right. The purpose

1 of this workshop is to help the Committee develop
2 information about transmission-related issues that
3 could affect the generation siting process.

4 PRESIDING MEMBER LAURIE: Okay, wait a
5 minute, time out. It's not working. Chris.

6 DR. TOOKER: Jim, I would suggest you
7 come here to the podium and give your
8 presentation. The mike here seems to be working
9 well.

10 MR. McCLUSKEY: The purpose of this
11 workshop is to help the Committee develop
12 information about transmission-related issues that
13 could affect the generation siting process.

14 The paper addresses two areas where
15 transmission issues potentially could affect
16 generation siting:

17 One area is the PTO-ISO interconnection
18 process.

19 The second, the effects transmission
20 line congestion may have on facility siting,
21 especially where it may limit market access
22 opportunities to new generators.

23 In both areas we've identified certain
24 issues that have been raised in our own procedures
25 and in other forums. We would like to know if

1 these issues still persist and/or if there are
2 other issues that the ISO, PTOs or applicants have
3 experienced.

4 By way of background the interconnection
5 process involves a number of participants and
6 procedures. The process begins when an applicant
7 submits an interconnection request to the
8 connecting PTO and to the Cal-ISO.

9 The ISO is generally responsible for
10 overseeing the interconnection process. It's a
11 study process for reviewing study results and
12 resolving disputes between the applicants and the
13 PTOs.

14 The PTOs are responsible for conducting
15 transmission studies to determine reliability
16 impacts on the system resulting from
17 interconnection.

18 The PTO may perform two studies, a
19 system impact study and a detailed facility study.
20 The impact study is used to identify potential
21 reliability problems that would occur in the
22 transmission system when a new generator connects
23 to the grid. If reliability problems are
24 identified in the studies, the applicant may
25 request that the PTO perform a detailed study to

1 determine what measures should be implemented to
2 mitigate those impacts and to identify their
3 associated costs.

4 The system study can take as long as 90
5 days. The facility study can take, I guess, an
6 additional 90 days. Those numbers are, I think,
7 up in the air right now. But, the ISO is in the
8 process, I should say, of revising its
9 interconnection study process and it's going to
10 submit a new tariff to the FERC in the very near
11 future.

12 Reliability impacts are typically caused
13 when new generators connect to the grid and create
14 system conditions that violate accepted
15 reliability criteria, as identified in the study.
16 These would include thermal stability and voltage
17 criteria violations.

18 Any reliability criteria violations can
19 be mitigated through remedial action schemes such
20 as measures that would curtail generation output
21 during emergency conditions. Others may require
22 transmission line expansion or replacement or
23 addition of transformers, circuit breakers or
24 other system components.

25 Current policies require that the

1 connecting generator pay the costs of the
2 interconnection studies and the costs of
3 mitigating reliability problems.

4 Interconnection studies can cost from
5 \$50,000 to \$100,000, that's a ballpark figure on
6 both sides. And mitigation of criteria violations
7 can range from hundreds of thousands for RAS
8 schemes, or remedial action schemes, to tens of
9 million dollars for transmission upgrades and
10 other related expansions.

11 We've identified five issues associated
12 with interconnection that may affect the siting
13 process. These include interconnection study
14 timelines, queuing issues, cost responsibility,
15 remedial action schemes and permitting problems.
16 I'm just going to leave the details on those
17 issues for the discussion, and I'll just move on
18 to a discussion of congestion issues.

19 The second area concerns congestion-
20 related issues that could affect siting.
21 Connecting new generation to the grid causes
22 reliability problems, but it also often increases
23 congestion on the transmission system.

24 Congestion refers to increased loading
25 on transmission lines and equipment. But unlike

1 reliability --

2 MS. SHAPIRO: Jim, we're going to stop
3 you again.

4 MR. McCLUSKEY: Okay.

5 MS. SHAPIRO: Get the mike that's
6 closest to me and get it right by your mouth
7 because we can't hear you.

8 (Off-the-record discussions.)

9 MR. McCLUSKEY: The second area concerns
10 congestion-related issues that could affect
11 siting. Connecting new generation to the grid
12 causes reliability problems, but it also often
13 increases congestion on the system.

14 Congestion refers to increased loading
15 on transmission lines and equipment. But unlike
16 reliability problems, the grid operator is able to
17 redispatch generation so that the system can still
18 serve load without violating reliability
19 standards.

20 Increased congestion usually causes
21 higher transmission delivery costs. The addition
22 of new generation resources to the grid may create
23 new or aggravate existing congestion problems with
24 potentially multiple effects.

25 Congestion may affect the ability of

1 older generation to compete with new generation
2 for transmission capacity, and could displace it
3 under some circumstances.

4 As congestion on transmission lines
5 increases it may affect siting decisions by new
6 generators, as it may affect their ability to
7 access electricity markets.

8 Under some circumstances new generators
9 may reduce congestion by introducing counter-
10 flows. Typically increased congestion also
11 increases the costs of transmitting electricity on
12 the grid. However, resolving congestion problems
13 also has significant costs.

14 There are both short-term and long-term
15 ways that address the costs related to congestion.
16 Short-term solutions to cost problems can be
17 addressed through hedging techniques, such as the
18 use of firm transmission rights. These allow the
19 holder of the transmission right to collect the
20 costs of congestion that are experienced on that
21 portion of the pathway that he holds the right on.

22 Another way of hedging congestion or
23 dealing with congestion problems and congestion
24 costs is to have participants bid for transmission
25 capacity through the ISO's congestion management

1 process.

2 As congestion on transmission lines
3 increases, the cost of transporting electricity
4 also increases. At some point it becomes
5 necessary to identify longer term, more costly
6 solutions to congestion problems such as
7 transmission expansions.

8 This brings us to the issue of who pays,
9 or who should pay to mitigate congestion problems.
10 This has been a long and contentious issue. In
11 the past the ISO adopted the position that the
12 market should pay for such expansions based on the
13 costs of congestion versus the costs of grid
14 expansion.

15 Others believe that new generators that
16 cause or increase congestion when they connect to
17 the grid should pay. A market approach to
18 encourage transmission expansions hasn't worked
19 for whatever set of reasons. FERC has rejected
20 the view that new generation should pay the costs,
21 so where does this leave us.

22 PRESIDING MEMBER LAURIE: FERC has
23 rejected the issue that new generation should pay
24 all the costs or just their share?

25 MR. McCLUSKEY: Congestion costs.

1 PRESIDING MEMBER LAURIE: Congestion
2 costs.

3 MR. McCLUSKEY: Congestion costs. New
4 generators to pay the reliability cost, from my
5 understanding, based on my understanding FERC has
6 rejected the notion of that -- or the policy that
7 new generation should be required to mitigate
8 congestion that they cause when they connect to
9 the grid.

10 PRESIDING MEMBER LAURIE: Now, let me
11 ask a question about that, and I'll be interested
12 in a brief explanation because I know that these
13 discussions have been going on for some time and I
14 don't quite understand it.

15 Let's say we weren't playing with
16 electrons, let's say we were playing with
17 automobiles on a major thoroughfare. And I'm a
18 housing developer, and I'm going to put in a 500-
19 unit subdivision, and therefore I'm going to have
20 1000 trips per day that are going to be added to
21 that highway system.

22 Well, I'm going to be -- and as a result
23 of my 1000 trips a day there's going to be needed
24 upgrades for that system to avoid level service F
25 or congestion.

1 Well, I'm going to have to pay probably
2 into a pot of money that will be used for upgrades
3 to the system.

4 Is that what ISO proposed and FERC
5 rejected? Or was it something different? Or can
6 somebody talk about that later? We don't have to
7 do that now, but can we talk about that?

8 MR. McCLUSKEY: Yeah, we can get to that
9 later.

10 PRESIDING MEMBER LAURIE: Okay, go
11 ahead.

12 MR. McCLUSKEY: Well, let's do it later.
13 Anyway, that's the basis of my presentation. Let
14 me just summarize the issues we've identified
15 here.

16 One was congestion siting location
17 decisions. We've already mentioned that. That is
18 to say does congestion affect where new developers
19 choose to site their power plants.

20 There's some evidence, of course, that
21 it does, but we'd like to know how that's affected
22 folks.

23 The other issue we've mentioned is
24 market-based expansions and what are some other
25 options. We suggested that perhaps the -- well,

1 we know where the ISO seems to be going on this,
2 and what they're proposing is to do congestion
3 management studies, themselves, or congestion
4 assessment studies, themselves, and to try to work
5 with the PTOs to get those congestion problems
6 resolved.

7 A third option would be to rework the
8 market approach and see if they can get that to
9 work, make some combination of the three.

10 Another potential impact of congestion
11 could be to displace older facilities or reduce
12 electricity output by limiting their access to
13 transmission capacity.

14 One question we had here was if this
15 occurred could it eventually affect the amount of
16 net generation available under some conditions.
17 That is to say if new generation coming in
18 displaced older, less efficient generation, under
19 some conditions that would be a good thing because
20 it would show that competition was working.

21 Under present conditions it might not be
22 such a good thing because it could affect net
23 generation. So it's a problem now that might not
24 exist in other circumstances.

25 So, with that, I would let Chris do his

1 panel dispensation.

2 DR. TOOKER: Thank you very much, Jim.

3 Our first speaker in talking about transmission
4 line interconnection issues is Jeff Miller from
5 Cal-ISO. Jeff.

6 MR. MILLER: Good morning once again.

7 It's a pleasure to be here before you. I'm Jeff
8 Miller with the ISO. I'm a Manager in the ISO's
9 Grid Planning Department. And one of the
10 responsibilities of my group is to review all the
11 generator interconnection studies that are
12 proposed for the ISO grid.

13 PRESIDING MEMBER LAURIE: We had one of
14 your guys testify down in the Metcalf case the
15 last couple days. He was outstanding, absolutely
16 outstanding. I'm not going into the substance of
17 his testimony, but the manner of his presentation.
18 So I'll write you a note about that sometime.

19 MR. MILLER: That's wonderful to hear,
20 thank you. I'll pass that on to him.

21 We have five engineers, Peter's one of
22 them. He's our senior engineer; we have four
23 other engineers. And we review all the generator
24 studies that are going on. Right now we have
25 about 115 projects that we're following as I'll

1 mention a little bit later.

2 Today I wanted to cover some of the
3 points that Jim had identified in his paper, what
4 are the generator connection study requirements,
5 and just go over that real briefly.

6 I'll explain what the ISO's role is in
7 reviewing those studies and commenting on them.
8 We'll discuss a little bit about the queuing
9 process for generators, how it's done now and how
10 we're planning on doing it, just a very high
11 level.

12 And then I thought I'd give you an
13 overview of what projects we're reviewing, how
14 they're distributed among the state. You're
15 probably already aware of most of them, but there
16 are some that, because of confidentiality
17 agreements, aren't publicly known, so I'll give
18 you some numbers of at least what we're aware of
19 in the state.

20 And then I thought it might be useful
21 just to explain to you, just give you an overview
22 of some of the big transmission projects, or the
23 number of transmission projects and the dollars
24 that we're planning on spending on the
25 transmission system. Not necessarily in

1 association with the generation projects, but just
2 to give you a feel for what else is going on in
3 the transmission system.

4 COMMISSIONER PERNELL: When you say we,
5 you're talking about the ISO --

6 MR. MILLER: The ISO among --

7 COMMISSIONER PERNELL: -- is going to
8 spend money on the transmission system?

9 MR. MILLER: The ISO along with the
10 participating transmission owners, which are
11 Edison, San Diego and PG&E.

12 Okay, our process is governed by the
13 tariff that we have filed at FERC. It's also
14 governed by the tariffs that the transmission
15 owners have filed with FERC, as well as the
16 transmission control agreements which are the
17 agreements that give us certain rights in the
18 transmission owner system.

19 We have a four-step process that's
20 identified in that tariff. The first one is the
21 interconnection request. That's really simple.
22 It's not worth spending a lot of time on that,
23 it's just asking for an interconnection -- asking,
24 a generator approaches a transmission owner and
25 asks for an interconnection.

1 The second one is a system impact study.
2 That's when you start getting into some dollars
3 and time. It's the analysis that the transmission
4 owner would do to determine what the impact is on
5 their system, and whether or not upgrades would be
6 required.

7 PRESIDING MEMBER LAURIE: And is that --
8 how widespread is that study? Or what length does
9 that study encompass, so when you talk about
10 impact on the system, are you talking about the
11 immediate system? Or from what point to what
12 point? How do you know what a reasonable area to
13 study is?

14 MR. MILLER: The scope of the study is
15 generally agreed upon before it start, among the
16 ISO, the PTOs and the generation developer. And
17 they use their collective understanding of the
18 system to determine how far they expect the
19 impacts to be, and what sort of things should be
20 covered in the study.

21 PRESIDING MEMBER LAURIE: Okay, let me
22 go back to my major thoroughfare analogy again.
23 Let's say highway 50 were not a state highway,
24 let's say it were just a nonhighway road, a major
25 thoroughfare.

1 And a new subdivision plan for El Dorado
2 Hills. Well, those vehicles are going to have an
3 impact all the way into downtown Sacramento and
4 beyond. And certainly the persons paying are not
5 going to want to take the view that we don't want
6 to study what the impacts are at the interchange
7 down here, we'll let you study it through Folsom.

8 Is that the kind of discussions that you
9 have?

10 MR. MILLER: Somewhat, but what we would
11 try to do for that specific case is we would try
12 and study to get an idea of what the impacts were
13 on the highway system. And there hasn't been much
14 push back from the generation developers to
15 looking at that.

16 Now, of course, if you want to try and
17 do something about congestion that you find on the
18 highway system, then that's a different story.

19 We want to understand the impacts on the
20 system, but our present philosophy is we're not
21 going to require the generation developer to
22 mitigate those impacts on highway 50. What we're
23 requiring them to do is to build the roadways from
24 their development out to the first major
25 thoroughfare. And from there on it's really a

1 grid manager's responsibility to use congestion
2 management to deal with the impact of that
3 additional traffic on the highways.

4 We do ask them to do some upgrades if
5 there's a definitely reliability tie to the new
6 generation. And the major thing that we ask for
7 there is circuit breaker additions in some of the
8 substations. Because you can have a generator
9 come on line and they may not produce one
10 megawatt, but just the fact that they're there and
11 their machine is spinning can cause a circuit
12 breaker to be overstressed, and you may need to
13 replace that.

14 So we require that. But we don't --

15 PRESIDING MEMBER LAURIE: The general
16 rule is that the highway 50 analogy is that the
17 greater public, the greater ratepayers, some other
18 source of funds, other than the developer, pays
19 for upgrades to highway 50.

20 MR. MILLER: Right, but the developer
21 has the choice of stepping forward and making
22 those upgrades if they choose to do that.

23 PRESIDING MEMBER LAURIE: As opposed to
24 doing some other kind of mitigation?

25 MR. MILLER: Yeah. They can either --

1 well, they can agree with the other generators
2 that are trying to get out of the area on some
3 scheme for curtailment, if they want. They can do
4 that on their own.

5 They can use the ISO's congestion
6 management protocols to deal with the congestion.
7 Or they can choose to build a transmission project
8 that would eliminate it.

9 And then there's also the ability for
10 the ISO to say, look, there's a lot of generation
11 constrained in this one area. It's in the
12 interest of the ratepayers to free that up and
13 make it available to the overall state. Since
14 none of the generation developers are stepping
15 forward, let's go ahead and do it as a normal
16 reliability transmission project. Have one of the
17 transmission owners build a facility and recover
18 it through the rates.

19 MS. SHAPIRO: Wait, I have a question.
20 I wanted to use Bob's analogy. I just want to
21 talk about the study, the system study. But we're
22 going to use the highway, since that's so easy to
23 understand.

24 So, I want to understand how far, the
25 study goes further than just hooking into 50.

1 Wouldn't the study like come down to the nearest
2 urban area? I mean not down to L.A., but at least
3 to Sacramento?

4 MR. MILLER: The study actually
5 typically goes at least to the State of
6 California, and often --

7 MS. SHAPIRO: Oh, okay.

8 MR. MILLER: -- for the model we've
9 modeled the whole western interconnection, which
10 is from the Rocky Mountains --

11 MS. SHAPIRO: Okay, so the study
12 actually does do much greater than just down to
13 the nearest big city type of thing?

14 MR. MILLER: Right.

15 MS. SHAPIRO: Okay.

16 MR. MILLER: So we know what the impacts
17 are. It's just right now we don't require the
18 generation developer to eliminate those impacts.

19 MS. SHAPIRO: Thank you.

20 MR. MILLER: Okay, so the two main
21 studies are system impact study, identify the
22 impacts. And then you go into the detailed
23 facility study, and that's where you figure out
24 exactly what needs to be built to mitigate those
25 impacts. Those are the two big steps.

1 The fourth step is you have to let the
2 rest of the west know what you're doing. So you
3 post what your plans are up on the websites of
4 those entities, the WSCC, Western Systems
5 Coordinating Council, and RTG is Regional
6 Transmission Group. You might have heard of the
7 Western Regional Transmission Group, which is the
8 major one for this area.

9 COMMISSIONER PERNELL: That's just a
10 matter of information. Do they have any say-so
11 over whether or not they approve or disapprove of
12 what you're doing?

13 MR. MILLER: They do have the ability,
14 through the Western Systems Coordinating Council,
15 to come in and object to what you're doing.
16 Typically for these generator connection projects
17 we haven't really seen that. We haven't had any
18 entity object to it.

19 The WSCC process is really meant to deal
20 more with major changes to bulk transmission
21 facilities, like the interconnections between the
22 Northwest and California. So these small
23 generation projects, you know, 1000 megawatts may
24 not be small, but to the overall western system it
25 is. Those really don't get focused on by those

1 groups.

2 PRESIDING MEMBER LAURIE: We'll try and
3 not interrupt you very much more, because we note
4 that our other speakers will probably be
5 addressing these issues in greater detail.

6 MR. MILLER: Okay. All right, so the
7 big things there were the system impact study and
8 the facility study.

9 And the way our tariff is set up right
10 now, the transmission owners are the ones that
11 conduct the studies, and the ISO reviews the
12 studies.

13 I'm not going to go through this chart,
14 probably can't read it from there, anyway. But
15 this has all the timelines under our tariff for
16 conducting the different phases of study. And it
17 has the different roles, the different entities.
18 The ISO's role is on the left. Transmission
19 owners' role is in the middle. And the applicant
20 or generation developer is on the right.

21 And this just gives you an overview of
22 the different timelines. The system impact study
23 that you were asking about earlier, 60 days is the
24 timeline for them to complete that.

25 The facility, because that can become

1 fairly involved, that's a timeline that's
2 negotiated in the agreement between the generation
3 developer and the transmission owner.

4 Just wanted to give you an overview of
5 the type of approvals that we grant on these
6 interconnections. We really only started out with
7 one type of approval, which was we either approve
8 it or we don't. And that didn't really fit the
9 way that these generation projects were being
10 processed. Because it takes generally a lot of
11 study work to get to the point where you can say
12 absolutely, that's everything you need for a
13 generation project.

14 So what we did is we came up with a
15 couple other types of approvals. The one that we
16 would use the most with the Energy Commission is
17 called a preliminary approval.

18 And that means that we're satisfied that
19 the generation project has identified all the
20 major facilities that will be required to connect
21 their project into the grid.

22 There may be some outstanding issues
23 such as how they're going to hook into a RAS
24 scheme, or whether they have to. Or exactly what
25 circuit breakers they need to replace. But we're

1 satisfied that the major facilities have been
2 identified so that you, as a permitting entity,
3 can be comfortable that there aren't going to be
4 major new facilities that this generation project
5 requires that might have environmental impacts
6 that you'd have to consider.

7 So we developed the preliminary approval
8 mainly to facilitate the siting process.

9 And then the conditional approval, we
10 developed that to deal with cases where we were
11 sure that all the impacts had been dealt with, but
12 we didn't have all the documentation that we might
13 have wanted from the transmission owner on it, so
14 we say presuming you can get us this documentation
15 within a certain period, you're approved. That's
16 a fairly simple one.

17 And then final approval, they, of
18 course, have to have that before they actually
19 interconnect, but that's when everything's agreed
20 on exactly what's required as far as being
21 participation in a remedial action scheme, maybe
22 something that we may want to discuss later. I
23 know it's in Jim's paper.

24 And also the specifics as far as what's
25 required for circuit breaker replacements and so

1 on.

2 All right, now in response to the
3 situation we're in today, what we've done is
4 recognize that transmission owners are being
5 required to turn around studies, in some cases, in
6 seven days. The typical timelines for ISO review,
7 which might be a few weeks to a few months, didn't
8 seem all that appropriate.

9 So what we've done is we've really
10 shortened our process to really just a few days.
11 And as soon as we get a study in from the
12 generation developer, or even a note that they're
13 planning to start a study, we send it to our
14 operations engineers and ask them to tell us if
15 they have any concerns; in 24 hours our planning
16 engineers will start doing the analysis and try
17 and turn that around in one day. And start
18 writing the written response to the generation
19 developer.

20 And then they'll discuss it with me, and
21 we'll send out the response hopefully within two
22 days of receiving the study.

23 PRESIDING MEMBER LAURIE: Would you like
24 to take questions on planning issues this
25 afternoon when we talk about congestion?

1 MR. MILLER: Anytime you'd like to ask a
2 question.

3 PRESIDING MEMBER LAURIE: Okay, that's
4 probably the better time to bring it up, clarify
5 who's doing what to whom and why and that kind of
6 thing.

7 MR. MILLER: Okay.

8 COMMISSIONER PERNELL: But typically
9 it's two days for ISO to turn this around?

10 MR. MILLER: We're trying to do that in
11 two days. I can't say it's always been two days,
12 but the one thing we're committed to is we're
13 never going to be a source of delay for these
14 projects.

15 We need the generation so desperately,
16 if we have to have people work around the clock,
17 we will, so that we don't delay the projects.

18 COMMISSIONER PERNELL: Is it safe to say
19 it's less than five days?

20 MR. MILLER: Yeah. Well, it would be
21 less -- well, except in -- there's some large
22 projects that it just is going to take longer.
23 But for the smaller ones, like the ones that we're
24 processing for this summer, the summer reliability
25 generation, 50 megawatt project. Those, we feel

1 comfortable we can turn those around in a couple
2 days.

3 You know, most of the places on the
4 transmission system you can put in another 50
5 megawatts without major impacts.

6 We use a lot of engineering judgment for
7 those smaller projects. A good example is
8 stability studies. Those require quite a bit of
9 time. For some of the smaller ones we say, well,
10 we don't think there's going to be a problem,
11 we're going to use our judgment and say, you don't
12 have to do the stability studies, and we'll go
13 ahead and give them approval without that.

14 And we act as a proponent for the
15 generation. We try and aid them in connecting to
16 the system. We try and work out disputes that
17 they may have with the transmission owners. We
18 try to aid the siting process by providing your
19 Commission with testimony.

20 Just quickly on the generation queues,
21 right now those are being managed by the
22 transmission owners. Each one has a different
23 queue. And they have somewhat different queuing
24 policies.

25 The queue is important, because

1 depending upon where you are in the queue can
2 significantly change the costs that you're going
3 to have to pay to connect to the system. So it's
4 a very common issue among generation developers.
5 It's one of the things we hear about a lot, the
6 complaints over, you know, they think they should
7 be in the queue in a certain point. And a
8 transmission owner may feel differently.

9 Right now we're saying it's the
10 transmission owners' queue and we're going to go
11 with what they say. But that will change shortly,
12 although I can't say I'm thrilled about that.
13 Because we're going to take over managing the
14 queue, so we'll get to deal with all those
15 disputes.

16 We have a queuing policy that's been
17 drafted that we're planning on filing with FERC
18 shortly. And there's not much time to go into
19 specifics, but there's a written document if
20 you're interested. I'd be glad to give it to you.

21 PRESIDING MEMBER LAURIE: I think you'll
22 find that the key to the queuing issue is advanced
23 planning. Because if you have your plan in and
24 the costs allocated or determined, it doesn't
25 matter where you are in the queue, everybody's

1 going to be treated equally.

2 Until that happens, some folks will want
3 to get in early; some folks will want to get in
4 late. And it's always a gamble.

5 MR. MILLER: Yeah, there's a little bit
6 of a game going on there. And there's quite a bit
7 of strategy behind when you want to file your
8 application and what happens when somebody changes
9 their application or don't meet a deadline.
10 There's a number of issues with queuing.

11 Just as an overview of the type of
12 projects that we're dealing with, we've got about
13 115 generation projects that we're following. Not
14 all those are connected right onto the ISO grid.
15 Some of them are neighboring systems. Some of
16 them are along the Arizona border with California.

17 We have all sizes from little less than
18 10 megawatts to more than 1200. Nearly all gas,
19 which is an interesting policy issue, but not the
20 subject of today. And then the total number is
21 about 39,000 megawatts.

22 The distribution of this generation
23 among the grid is --

24 PRESIDING MEMBER LAURIE: Well, I guess
25 we promised we wouldn't interrupt you again, but

1 that 39,000 megawatts is an astounding number. Is
2 that information all public where that 39,000
3 comes from?

4 MR. MILLER: No, it's not, because many
5 of the projects are still being held confidential.

6 PRESIDING MEMBER LAURIE: Yeah.

7 MR. MILLER: The generation developer
8 needs to work with the transmission owner and the
9 ISO to figure out whether or not their project
10 makes sense. You know, if it really makes sense
11 to hook it in at a certain point.

12 But they've asked us to keep those
13 projects confidential. So, we have a list that we
14 maintain internally. And the reason I'm showing
15 you just the very high level numbers is that it
16 doesn't void our confidentiality agreement.

17 People are interested in how the
18 generation is distributed. We have about 13,000,
19 actually more than 13,000 megawatts that's
20 proposed to be connected to the PG&E system;
21 14,000 on Edison's; and 4000 on San Diego's.

22 If you talk with those transmission
23 owners they're going to give you a different
24 number because they have different lists and have
25 different confidentiality agreements.

1 And then just to get an idea of how it's
2 distributed among the state, Path 15 is the big
3 issue lately, the major transmission constraint
4 between the northern and southern parts of the
5 state.

6 We have about 11,000 megawatts that's
7 proposed north of Path 15, and 27,000, much of
8 that over on the Arizona border, south of Path 15.

9 PRESIDING MEMBER LAURIE: Can you just
10 give us a rough idea of what percentage of the
11 39,000 is in Arizona?

12 MR. MILLER: Yes. It's around nearly
13 10,000 of it.

14 And my last slide is just a description
15 of the number and dollar amount for transmission
16 projects that were -- we've already approved on
17 the ISO grid.

18 You can see the table on the top gives
19 you the number of projects planned for the
20 different years. And the dollar amounts for those
21 projects. You come up with a total of a little
22 over a billion dollars in transmission upgrades,
23 and the total number of projects is 122 on this
24 slide. This slide's a few weeks old. I believe
25 we're up to 131 now.

1 And the chart below just gives you the
2 information in graphical form.

3 I just wanted to give you this
4 information to make you aware that there is quite
5 a bit going on in the transmission system. I get
6 the feeling from reading the papers and talking
7 with people that some people think that planning
8 or transmission construction in the state somehow
9 stopped when deregulation started. It didn't.

10 Quite a bit of transmission construction
11 is going on. These are not projects associated
12 with generation. These are just projects to
13 provide basic level reliability to the state.

14 And I just wanted to throw that in as a
15 little added bonus.

16 With that, that's all I have. Thank you
17 very much.

18 COMMISSIONER PERNELL: Can we ask a
19 couple questions now before you get away?

20 MR. MILLER: Certainly.

21 COMMISSIONER PERNELL: On the
22 interconnection, it wasn't clear to me who
23 actually pays for that. You said the ISO pays
24 some and the generator -- who pays for the upgrade
25 of the transmission system?

1 MR. MILLER: The generation developer
2 would pay for the studies, and would pay for the
3 reliability impacts. They would pay for the
4 transmission facilities necessary to get from
5 their project to the first major thoroughfare, the
6 first --

7 COMMISSIONER PERNELL: Right, right, to
8 the --

9 MR. MILLER: -- major road.

10 COMMISSIONER PERNELL: -- to highway 50.

11 MR. MILLER: Yeah. And then they would
12 pay for things like circuit breakers where we had
13 a direct reliability tie to the generation
14 project.

15 COMMISSIONER PERNELL: Right.

16 MR. MILLER: And they might pay some of
17 the costs for different control schemes like
18 remedial action schemes that I briefly mentioned.

19 But when you get out into the system,
20 and you have those downstream impacts, like
21 highway 50 when you're driving in in the morning,
22 then the generation developers are not held
23 responsible.

24 And that's FERC policy and we're just
25 planning to implement FERC policy.

1 COMMISSIONER PERNELL: All right, and
2 who's held responsible for the upgrade and
3 maintenance of the highway 50 for this analogy?

4 MR. MILLER: It would be the ISO and the
5 transmission owners.

6 COMMISSIONER PERNELL: All right, now
7 why is the ISO held -- does the ISO get any
8 revenue from --

9 MR. MILLER: No, but the only reason we
10 would step forward and say go ahead and eliminate
11 this congestion, and build something, is because
12 we might feel that it was in the interests of the
13 ratepayers to lower the congestion costs, lower
14 power prices for everybody, and facilitate markets
15 and so on.

16 And given those benefits, they may be
17 substantial enough to offset the costs of the
18 transmission project, so we'll go ahead and build
19 the project.

20 COMMISSIONER PERNELL: Right, and I
21 understand that. I guess my question is if I was
22 an owner of a portion of that thoroughfare, I
23 wouldn't do any upgrades until the ISO deemed that
24 it's of the best interests of the state to help me
25 do that. I mean it seems to me that it is not an

1 incentive for me to do any upgrades.

2 MR. MILLER: That's right. That's
3 right. Now the generation developer may have a
4 strong incentive, because they may not be able to
5 get financing for their plant unless they can get
6 it out to market.

7 They may think that the constraints
8 occur during periods when the power is going to be
9 most valuable, and their project wouldn't be
10 economic without the transmission addition. So
11 they may have incentives to step forward and do
12 it, and we, of course, encourage that. I mean
13 that's our preferred solution is to have the
14 generation developers eliminate the congestion and
15 take on those costs themselves.

16 But, if they don't step forward and do
17 that, and it looks like it's in the interests of
18 the ratepayers to step forward and build
19 something, then we're there to fill that gap.

20 PRESIDING MEMBER LAURIE: You don't have
21 any authority to order an improvement, right?

22 MR. MILLER: We do have the authority to
23 direct a transmission owner to build a
24 transmission reinforcement. They have the ability
25 to say no. And we can take it through AER and so

1 on. But in the end, if we prevail at FERC, they
2 are obligated to build the facility.

3 PRESIDING MEMBER LAURIE: And what's the
4 role of the PUC?

5 MR. MILLER: The PDC?

6 PRESIDING MEMBER LAURIE: PUC.

7 MR. MILLER: Oh, PUC. The PUC would be
8 the siting authority for the transmission
9 facility.

10 COMMISSIONER PERNELL: And on a scale
11 from one to five, what is the condition of our
12 transmission system in the state? Five would be
13 good.

14 MR. MILLER: Well, you have to split it
15 into sections. If I were to take Southern
16 California Edison's system, I'd give it a five.

17 If I were to take San Diego's system and
18 neglect the import capability concerns, I'd
19 probably give that a four or five, too. They need
20 some serious additions to be able to import power
21 into their area.

22 PG&E's system, I'd probably rank that a
23 little lower, around a three, something like that.
24 And we're working hard to bring their system up to
25 the same standard as the systems in the southern

1 part of the state. The bulk of our transmission
2 projects are in the northern California and PG&E
3 system.

4 MR. TOMASHEFSKY: Just one timing
5 request before you go. You talked about the
6 review being shortened to a few days. What
7 happens when we get beyond a crisis, do we go back
8 to the traditional review process? And if so, how
9 does someone that comes with an application
10 request know that we're now back on a regular
11 track?

12 MR. MILLER: We'll have to send some
13 notice out. But I would hope that we can get back
14 to regular track, just from a workload management
15 perspective. Also, I think given a little more
16 time, we do a better job. And we can make sure
17 that all the issues are very thoroughly dealt
18 with.

19 I'm not saying there's going to be
20 reliability problems or any major concerns from
21 speeding things up like this, but I think it is
22 better to take a measured approach if you have the
23 time.

24 And typically the interconnection
25 studies aren't the thing that holds up a power

1 plant. So, I would hope that we could go back to
2 the old timelines and not add delay to new
3 generation coming on line.

4 MR. TOMASHEFSKY: Thanks.

5 COMMISSIONER PERNELL: Thank you.

6 MR. McCLUSKEY: Jeff, just a quick point
7 of clarification. You said that developers are
8 not responsible for downstream impacts. You mean
9 congestion by that?

10 MR. MILLER: Congestion.

11 MR. McCLUSKEY: But reliability problems
12 they are responsible for, if they --

13 MR. MILLER: Right.

14 MR. McCLUSKEY: -- if they're
15 interconnection causes a reliability problem
16 downstream of the point, the first point of
17 interconnection to the system, they're responsible
18 for mitigating that, the cost of mitigating that?

19 MR. MILLER: That's right, but about the
20 only reliability impacts we've seen downstream
21 would be circuit breakers or participation in some
22 control scheme.

23 MR. McCLUSKEY: Okay.

24 MR. McCUEN: If I might, just for a
25 second here. My name's Al McCuen. I'm the

1 Program Manager for the Transmission System
2 Engineering discipline. I've worked with the
3 Cal-ISO for three years and developed most of the
4 coordination with the Cal-ISO.

5 In terms of his statement that
6 interconnection studies generally, or maybe never,
7 held up our process, that is true. Out of 16
8 cases there have been one or two times, I believe
9 it was one where because an interconnection study
10 was not available, the preliminary approval by the
11 Cal-ISO wasn't available, and the FSA or a hearing
12 had to be delayed.

13 So, just basically, although it's been
14 very difficult, we have been able to persevere and
15 not delay cases. It's also quite common that my
16 staff or I would see a preliminary approval over a
17 weekend, or given in as short as three days, even
18 history.

19 DR. TOOKER: Thank you very much, Jeff.
20 What I'd like to have the following speakers do,
21 or encourage them to do, is where possible to
22 eliminate any repetition in terms of system
23 approaches or processes and just try to highlight
24 what they do in their own roles, or the issues
25 that they see that are of concern that haven't yet

1 been addressed. So that we will have time for
2 questions and we will be able to get all the
3 speakers on.

4 The next speaker we have is Dave Korinek
5 from San Diego Gas and Electric.

6 PRESIDING MEMBER LAURIE: Good morning,
7 David.

8 MR. KORINEK: Good morning. Thank you,
9 Commissioner Laurie, --

10 COMMISSIONER PERNELL: 'Morning.

11 MR. KORINEK: -- for the invitation,
12 Commissioner Pernell.

13 I want to focus my comments on the study
14 resources, the study process, and study timeframe
15 and queuing in my comments this morning.

16 The resources available to conduct these
17 studies, which are essential to connecting the
18 plants, are a very limited commodity. In the
19 entire state, including the transmission owners
20 and the ISO, and qualified consultants, the people
21 that are capable of performing this type of
22 studies are numbered in the few dozen. And that's
23 statewide.

24 And so there's a limited pool of
25 personnel available to conduct this kind of work.

1 And, as you've seen from some of the earlier
2 slides, a tremendous volume of requests.

3 I've got a slide I wanted to share with
4 you that kind of portrays --

5 PRESIDING MEMBER LAURIE: So would that
6 be a good consulting business to get into at this
7 particular --

8 (Laughter.)

9 MR. KORINEK: It's a tremendous
10 consulting business to be in, yes, and I encourage
11 other consultants to move into that business.

12 The slide I have to share with you here
13 is just to show the impact that deregulation has
14 had in California, in particular the SDG&E system,
15 in this area of generation interconnection
16 studies.

17 The slide shows a number of sites that
18 we've been asked to study by merchants since 1998.
19 You can see in '98 and '99 we had one or two sites
20 in each year to study. In calendar year 2000 we
21 had over 30 sites to study. And based on the
22 requests this year to date, it looks like we'll be
23 again in the neighborhood of some 30 studies in
24 the year 2001.

25 Notwithstanding the Governor's

1 directive, his recent executive order to expedite
2 the studies for simple cycle and combined cycle
3 units in 2001 and 2002 to an extremely short
4 timeframe, the average time to do this type of
5 study takes one to three months.

6 So, with 30 studies a year, just for
7 SDG&E alone, you can see the amount of manpower
8 that's consumed in this type of work. Not to
9 mention the utility's own load surveying studies
10 and expansion plans that are also taking place in
11 parallel with these generation studies.

12 PRESIDING MEMBER LAURIE: Does San Diego
13 rely on in-house staff, or do you contract outside
14 when necessary? How do you handle the workload?

15 MR. KORINEK: We rely almost entirely on
16 internal staff. We do selectively use outside
17 consultants where it's appropriate.

18 We receive inquiries on almost a daily
19 basis from the applicants for interconnection on
20 the status of the study, on how we can expedite
21 the studies. And so there's a lot of attention
22 given to the study resources and the study
23 timelines.

24 Suggestions to the process for
25 applicants. One is to apply as early as possible.

1 The earlier they get in the queue the better
2 position they are in to get their studies
3 expedited and through the process.

4 The other thing that I would request of
5 them is to keep in mind that there are other
6 merchants in front of them in the queue. That in
7 spite of their own business plan and their own
8 timetable, that they need to understand the number
9 of other applicants and hopefully would expect
10 those applicants to be given the same care and
11 thorough analysis of their requests that they
12 would, themselves, like to have.

13 Another option to consider is the
14 possibility of joint studies between participants.
15 Or I should say between applicants. In those
16 cases where there are more than one applicant
17 project connecting at a location in the system, or
18 similar locations in the system, and on a similar
19 timeframe, there may be an opportunity for those
20 applicants to participate in a joint system impact
21 study. And rather than doing the study
22 sequentially, performing these studies in
23 parallel.

24 That does require them to make more
25 disclosure of their business plans than, in some

1 cases, they're willing to do. In many cases they
2 are somewhat reticent to disclose that level of
3 information.

4 But I would encourage them, where it's
5 possible, where it is workable with their business
6 plan, to consider working with the PTO and
7 determining if there are other applications that,
8 along with theirs, can be studied as a joint
9 study, a parallel study with all the parties
10 involved, in order to expedite the process.

11 One thing that I would not encourage
12 merchants to do is to try to expedite the design
13 and engineering of the facilities before the
14 studies are done.

15 We've had some pressure from merchants
16 to do just that. Our experience is that tends to
17 be very counterproductive.

18 If the resources, again in addition to
19 the study resources being limited, the engineering
20 and design resources, as well as construction
21 support to actually put these interconnections in
22 place is also a very limited resource.

23 And therefore, in an effort to say well,
24 let's get on with the design and engineering, and
25 get that rolling while the studies are still in

1 progress, can indeed be very counterproductive,
2 and very costly. Because the plan of service for
3 interconnection may change significantly from the
4 early phase of the system impact studies to the
5 end of the facility studies.

6 So it may be appropriate in some cases,
7 but needs to be done with great care. And done in
8 only those cases where the plan of service is
9 clear from an early stage.

10 In spite of that there may be
11 opportunities to release some parts of those jobs
12 to engineering at an earlier date.

13 So, the bottomline is that what we need
14 to see is a lot of flexibility and cooperation
15 between the applicants and the PTOs in this
16 process in an effort to try to facilitate that
17 together, and perhaps make disclosures of some of
18 their business plans in order to facilitate that
19 process in a more timely fashion.

20 The other point I wanted to make is that
21 the process of providing the interconnection is
22 really a parallel process to the generation plan,
23 itself, in terms of the work flow and the
24 timeline.

25 And in many cases it's the timeline for

1 the electric interconnection that drives the
2 feasible in-service date of the project, not the
3 timeline of the generation unit, itself.

4 The plant may be able to be built in a
5 much shorter time than the transmission, given the
6 design equipment lead times, transmission
7 licensing requirements, and extended timeframe
8 that may be involved in actually installing the
9 electric interconnection facilities.

10 Thank you for your time.

11 MS. SHAPIRO: I have a question. Could
12 you give an opinion about how it will be if the
13 queuing is managed by the ISO instead of you?

14 MR. KORINEK: We support a centralized
15 queuing process by the ISO.

16 MS. SHAPIRO: Thank you.

17 COMMISSIONER PERNELL: I think our
18 moderator has left the room, so whomever is next.

19 PRESIDING MEMBER LAURIE: Mr. Tooker,
20 where did he go?

21 COMMISSIONER PERNELL: I think he
22 stepped out for a minute.

23 SPEAKER: I would welcome our next
24 speaker from SMUD.

25 MR. LEIGH-KENDALL: Good morning. My

1 name is James Leigh-Kendall. I'm happy to have
2 the opportunity to be here, and I'll see if I can
3 work on control.

4 MS. SHAPIRO: We're marveling that part
5 of the system is working, since our usual
6 experience is breakdown after breakdown after
7 breakdown with our new expensive system. So,
8 we're impressed.

9 PRESIDING MEMBER LAURIE: Yeah, but
10 whatever you do, don't try a conference call from
11 this room.

12 MR. LEIGH-KENDALL: I'm glad you noticed
13 how complex electrical systems are. Some of my
14 comments will address even more complex issues.

15 I wanted to talk this morning about two
16 broad issues, if we can get to slide two. Okay,
17 that makes sense.

18 All right, the two broad questions that
19 are raised in your notice are interrelated, I
20 think. The requirements to connect studies and
21 the constraints access issues identified in the
22 studies require solutions that I think are bound
23 together.

24 The first issue of transmission studies,
25 we believe studies need to be done, of course.

1 And they can be done in a timely manner. SMUD's
2 process is very similar to the ISO's process.

3 We do believe that common rules and
4 processes are required to meet the timelines that
5 are set by building and interconnecting a
6 generation plant, and how the upgrades and
7 constraints, the second issue, are dealt with,
8 will play into that timeline.

9 So I want to touch on issue two, here,
10 too. The constraints and upgrades that are
11 identified through the studies. Our main concern
12 is that any new rules for a new project
13 interconnection should add and not displace, and
14 certainly not diminish the capability of the
15 existing system to serve load.

16 So we see a relationship between
17 congestion and reliability, at least where it's
18 required to serve load. And may have some
19 different comments in the current ISO protocols on
20 that.

21 PRESIDING MEMBER LAURIE: Do you have a
22 grading system when you talk about constraints, so
23 when you look at a particular line, let's go back
24 to our automobile traffic analysis again. You
25 start off with level of service A and go down to

1 level of service F, depending upon the degree of
2 congestion.

3 When you're identifying the lines, and
4 the need for -- and you're doing your planning,
5 how do you grade the extent to which lines are
6 congested or not congested? Are they graded
7 similar to roadways?

8 MR. LEIGH-KENDALL: Probably it's more
9 of a bright line test. Most lines have normal and
10 emergency ratings. So once it exceeds its normal
11 rating, it's congested. We don't allow it to
12 exceed its emergency rating. And we look at what
13 will happen if we have to prepare for the first
14 outage. So it's probably similar to roadways, but
15 a little bit more definitive.

16 PRESIDING MEMBER LAURIE: Thank you.

17 MR. LEIGH-KENDALL: Okay, I do note on
18 this slide that remove congestion or provide
19 reliability, that it's unfair to have the last
20 project that causes a limit to pay for massive
21 upgrades that are often required. Those goes into
22 the queue issue a little bit. Everybody's
23 strategizing to get in before that upgrade's
24 required for reliability purposes.

25 But, by the same token, having a new

1 project pay nothing gives very poor locational
2 signals and won't accomplish much if more load is
3 not able to be served as a result of that project.

4 And as a result, it appears that rating
5 up with more RAS schemes, remedial action schemes,
6 as the easy generation interconnection solution.
7 You just build down to highway 50 --

8 PRESIDING MEMBER LAURIE: And RAS is
9 what?

10 MR. LEIGH-KENDALL: remedial action
11 scheme.

12 PRESIDING MEMBER LAURIE: Okay, thank
13 you.

14 MR. LEIGH-KENDALL: Now, before I go
15 further into the RAS comments, I wanted to go real
16 quick historical overview of where we benefit,
17 queuing, this has already been touched on, so I
18 won't go into it much.

19 In the old rule, new connections were
20 made after system reinforcements were made by some
21 party, but some people didn't have to make those
22 interconnections. And there's a bit of a fairness
23 question that comes along when some people could
24 interconnect without paying, because there was
25 existing margin on the system.

1 There are some reasons for this. When
2 an upgrade is made there's many winners,
3 transmission pass all over the region can be
4 improved. To use the highway 50 issue, if you
5 added a new lane to highway 50, as a result of one
6 more onramp being constructed, everybody that uses
7 highway 50 has an easier ride into town. There's
8 less congestion and more reliability. RAS, of
9 course, is always cheaper than building something.

10 If I can move to slide 8. What's wrong
11 with RAS. More and more RAS, you see three
12 projects that are near the SMUD area right now
13 that are in the approval, or have recently been
14 approved, have agreed to remedial action schemes
15 where they will ramp down if there's any overloads
16 on the system. They agreed to do that.

17 And one of SMUD's major concerns is what
18 if there's a hiccough, these RAS schemes are
19 usually electronic or the simplest one probably a
20 telephone call, but they sense system conditions
21 and turn the plant off or shut it down.

22 So what happens if all these RAS schemes
23 start operating on top of each other in the
24 future. We don't know, but we need to think about
25 that.

1 Also, the economists at SMUD have let me
2 know the RAS schemes, since they're applied to the
3 newest units, have the undesirable effect of
4 perhaps bumping the most efficient unit off line
5 when it's needed most.

6 A generator may be able to economically
7 explain being off line for three or four hours a
8 year if his RAS scheme may need to be operated,
9 but we still need to serve the load for those
10 three or four hours with some unit.

11 So, the question comes, slide 9, is if
12 not RAS, then what. SMUD thinks constraints need
13 solved by upgrades, transmission or generation
14 that's located close to load, rather than
15 curtailment of generation through complex
16 protocols such as remedial action schemes.

17 COMMISSIONER PERNELL: Who do they think
18 should pay for those upgrades?

19 MR. LEIGH-KENDALL: I'll get to that in
20 the next slide.

21 (Laughter.)

22 MR. LEIGH-KENDALL: The basic premise
23 here is that adequacy and reliability should be
24 looked at together.

25 So this leads to two recommendations.

1 One, of course, is that all these policies and
2 interconnection procedures should preserve great
3 capabilities to serve load growth.

4 And then SMUD, to answer your question,
5 supports concepts that may share the cost of these
6 upgrades, and not stick one entity or create a
7 barrier to entry. Now exactly the mechanism of
8 doing that is a complicated issue that the
9 beneficiaries and users and maybe the ISO or maybe
10 the State of California, as a whole. But those
11 are some things that need addressed, rather than
12 just either not paying and allowing RAS, or
13 sticking one transmission owner with the cost of
14 the whole upgrade that benefits the region as a
15 whole.

16 PRESIDING MEMBER LAURIE: Now is that,
17 going back to the last slide, SMUD's Board's new
18 concepts like cost sharing?

19 See, I wouldn't consider that a new
20 concept. I have to admit to a gross lack of
21 education on how we have funded transmission
22 upgrades in the past, and this is really helpful.
23 But I know how we've built roads. And we build
24 roads by cost sharing. So that if you're first in
25 line, and you want to go first, and you have to do

1 the upgrade, and you build beyond capacity for
2 just what you're causing, well, great, we're going
3 to make you build it, but you're also going to get
4 reimbursed through a reimbursement agreement.

5 If a bunch of folks want to go through
6 at the same time, then an area benefit kind of
7 deal is formed, and everybody throws money into
8 it, and everybody benefits from it.

9 So the concepts are not, to the extent
10 that they can be analogized to a highway system,
11 are not new. They've been used for decades.

12 I sense that they're new to the
13 transmission system, but I don't know that. And
14 this is really helpful.

15 MR. SABET: Commissioner Laurie, I was
16 going to suggest you're absolutely right. It is
17 not a new concept and there's plenty of examples
18 in transmission planning. I don't think James
19 intended that, but basically this is a concept
20 that maybe should be elevated.

21 MR. LEIGH-KENDALL: Elevated or proceed.

22 And then my final thoughts on this is
23 that studies can be done and need to be done in a
24 timely manner; however, generation, transmission
25 and load growth all need to be addressed together,

1 and not just through congestions and all these
2 steps need done prior to interconnecting a
3 project.

4 So, if there's any questions regarding
5 this brief overview and dome of SMUD's thoughts on
6 the issues I'll be happy to answer them.

7 COMMISSIONER PERNELL: My question is
8 just in relationship to SMUD, and actually I
9 thought I knew a lot about SMUD, having served on
10 the Board.

11 In the analogy of a superhighway, does
12 SMUD own part of the transmission superhighway, or
13 is it all kind of local connection wires?

14 MR. LEIGH-KENDALL: SMUD owns part of
15 the California Oregon Transmission project that
16 extends all the way to the border between
17 California and Oregon.

18 And we own a high voltage transmission
19 system in the Sacramento area that also extends
20 into other counties around us, and parallels other
21 superhighways. They all work in conjunction.
22 Anything done on Western's grid or the ISO grid
23 impacts SMUD. So we need to stay, and we do stay
24 in coordination with them.

25 COMMISSIONER PERNELL: And SMUD gets

1 revenue from those transmission lines?

2 MR. LEIGH-KENDALL: We probably pay. We
3 pay to use our transmission lines. I don't
4 believe we have a -- we do get revenue if we allow
5 somebody else to use our transmission lines, but
6 SMUD's basically, as you know, a net importer of
7 electricity, and we use the transmission to serve
8 our own load. So we're usually paying to use
9 other people's in addition to paying the costs for
10 our own facilities.

11 COMMISSIONER PERNELL: Okay, but if
12 someone were importing electricity from the
13 Northwest, and it comes through your lines, then
14 they would pay you a transition charge or
15 something?

16 MR. LEIGH-KENDALL: Correct.

17 COMMISSIONER PERNELL: Okay.

18 PRESIDING MEMBER LAURIE: And that's,
19 does the term wheeling apply to that charge?

20 MR. LEIGH-KENDALL: Wheeling is a
21 typical transaction charge for using a
22 transmission line to transport electricity.

23 MS. SHAPIRO: Do you do that? Is there
24 power coming from outside that comes through you
25 and you don't use right in your territory?

1 MR. LEIGH-KENDALL: Physically I believe
2 every electron that comes in to SMUD is used in
3 SMUD. Contractually we do -- we will for some of
4 Western's customers, Folsom Prison and offices
5 within our service territory. But physically
6 everything is used. Contractually it's a
7 different story. And we would need other
8 presenters up here to describe that.

9 PRESIDING MEMBER LAURIE: Thank you.

10 MR. LEIGH-KENDALL: Thank you.

11 COMMISSIONER PERNELL: Thank you.

12 DR. TOOKER: Thank you very much, James.

13 Our next speaker is Morteza Sabet from the Western
14 Area Power Administration.

15 PRESIDING MEMBER LAURIE: Morteza, good
16 morning.

17 MR. SABET: Good morning, Commissioners.

18 COMMISSIONER PERNELL: Good morning.

19 MR. SABET: I just want to give a little
20 brief background about myself, not to basically
21 for self promotion, just give you a perspective
22 where I'm coming from.

23 I have been working for Western Area
24 Power Administration for 20 years. My background
25 is mostly the planning all the way to construction

1 and initiation of project, so I have some ideas
2 about what it takes to do some of these projects
3 we've been talking about.

4 Also I wanted to say I have the good
5 fortune of working with this Commission back in
6 the late '70s, so I have some sympathy for your
7 pain, as well.

8 I just wanted to kind of address some of
9 the issues that you have brought up during the
10 course of this discussion. I don't have any
11 overheads because I was busy doing other work, but
12 I do have an overhead that I like to refer to
13 later.

14 PRESIDING MEMBER LAURIE: Are you
15 talking to talk about WAPA at all? Can you
16 give --

17 MR. SABET: Yes.

18 PRESIDING MEMBER LAURIE: Yeah, okay.

19 MR. SABET: That's what I was going to
20 do.

21 People often ask me are you impacted by
22 the restructure in California, or the ISO. My
23 response normally is just like being in a pool of
24 water around you, you're not wet. We are
25 impacted.

1 So the fact is everything around you is
2 going to impact. I was going to kind of
3 capitalize on your analogy for highway system.
4 Kind of expand on what Jeff said.

5 Basically what you're talking about, a
6 highway system, you're talking about the generator
7 being responsible for the onramp. Along the way
8 to get to the freeway, if there is a bridge that
9 you're busting because your axle loading is high,
10 you have to fix that bridge. That's called local
11 mitigation, reliability mitigation for that
12 impact.

13 Downstream I think I like to use a water
14 and sewer system for that. In other words, if you
15 have an infrastructure from a public good point of
16 view, you don't want to expand the infrastructure
17 every time you have added flush to the system.

18 So you have to have an infrastructure --
19 and we do a good job of that in this country.
20 When we build an infrastructure for water and
21 sewer treatment we do a very good job. We never
22 hear any problem with that.

23 The analogy for traffic is good, with
24 the exception the traffic, you can basically
25 endure the wait. If you don't believe that, San

1 Francisco is always a good example to see. You
2 can delay basically getting to work or get there,
3 but you always get there.

4 Whereas if your infrastructure is not
5 good enough you're going to have flooding and
6 plugging on your hands. That is not a good public
7 policy. So I fully, you know, from Western being
8 a public entity, fully support that.

9 Now I get back to the Western Area Power
10 Administration. We are one of the power marketing
11 agencies, this office, which is Sierra-Nevada
12 region, is located basically in northern
13 California, north of Bakersfield. Our service
14 territory covers the Nevada area, but most of our
15 transmission and hydro generation is northern
16 California.

17 We have about 2000 megawatts of
18 generation, 1500 megawatts of load obligation. We
19 are a wholesale utility with no load growth
20 obligation. One of the problems we are seeing
21 with the encroaching load growth, expansion of the
22 additional use of transmission, our system margin
23 is being depleted. We are impacted in that sense,
24 which I have some examples to talk to you about.

25 In terms of the RTGs or RTAs or WSCC,

1 while the cornerstone of creating those things
2 since I had a hand in writing up some of the
3 charters for that group, was basically efficient
4 transmission planning expansion. That was the
5 articulation of FERC.

6 In other words, before you proceed with
7 planning design and transmission why not
8 articulate and advertise your need, i.e., the need
9 is you need to expand a system by several ways.

10 You can fix it by building transmission,
11 increasing the infrastructure, bringing the
12 generation close to load, or have some load
13 curtailment demand side management. Before you
14 get into long-term investment in a costly
15 transmission you broadcast that.

16 Western and myself have taken that close
17 heartedly. What we did basically for the problem
18 in our area in Sacramento, I created a group
19 basically under the banner of the RTGs, Sacramento
20 Transmission Planning Group. And I normally
21 basically encourage all of the utilities or the
22 generators to basically it's an open forum, it's
23 public, all the work is publicized on internet.
24 You know, kind of throwing my friend David's
25 suggestion in here, usually you get a lot more

1 bang for your buck when everybody's at the same
2 table at the beginning.

3 And most generators, I've been able to
4 convince them it is to their best interest to go
5 public right at the time of system impact studies.
6 Because as a public body I don't think you can
7 incrementalize transmission investment from a
8 public good point of view, if nothing else. And
9 most generators are smart enough, they're picking
10 up on that.

11 We have, to date, I take a lot of pride
12 being involved in one of the first merchant plant
13 that was installed in the state. We had a great
14 deal of discussion about the RAS philosophy versus
15 expansion downstream.

16 I suggest to you if you'll still be
17 talking about the merit of those, obviously then
18 you're talking and arguing about that project.
19 I'm kind of glad that we did agree with the RAS
20 system, and that project is coming on line this
21 year.

22 Because every one of these projects is
23 just like raising a kid, have their own character,
24 because of the public input, site specificity,
25 project specificity, to surrounding. It is not a

1 wholesale approach for any of these things. You
2 have to look at a project in that project setting.

3 Therefore the public policy has to be
4 flexible enough to allow the best results for the
5 public investment in the dollar, because all of
6 these dollars we're spending out front, going down
7 to that last meter.

8 In terms of system impact study, we have
9 basically three generators right now that we have
10 passed through the test, using the forum that I
11 just suggested to you, open forum. They have come
12 in and we have done the studies for them. And
13 they're on their way.

14 And beyond them there is at least five
15 others that they're talking to us. And they're
16 located around or near the load center. So the
17 generators are smart enough, they know where to
18 go. What we have to do, make sure the water and
19 sewer system structures is big enough so they can
20 afford to come in.

21 I personally think the congestion
22 management so far has been dysfunctional and
23 failed miserably. That's my humble opinion.

24 And in terms of the workload, nobody's
25 worse off than a public entity such as a state, or

1 federal, in terms of arguing about getting people
2 that they're confident that can do the work.

3 We have, today we have managed, because
4 the work, itself, is interesting, I've been able
5 to basically manage to attract the people that we
6 need to do with some support from consulting
7 firms.

8 This is a highly simplified picture of a
9 transmission system in northern California. We
10 have like about around 3000, 4000 megawatts of
11 hydro system to the north. Those are basically
12 Feather River, the Pitt River and the Central
13 Valley Project, which is the federal government's
14 CVP system. Most of our generation is
15 concentrated to the north, about 1000 megawatts.
16 And the remaining part is basically Folsom and New
17 Melones and San Luis.

18 And as you see, those red dots are the
19 proposed generation, one of which is SMUD's Rancho
20 Seco proposal.

21 Can you dim the light a bit? Because if
22 you look at the -- the picture on the tv is a
23 little better -- I think the picture on tv does a
24 better justice, but -- you guys can see it.

25 What I thought would be good because the

1 group that I chair, we started back in 1996,
2 actually prior to that. And we been informally
3 meeting with the area utilities since the days of
4 Ranch Seco.

5 So, the whole concept in here, we have a
6 problem, a long-term problem such as your highway
7 analogy, that needs to be dealt with. The area
8 transmission is not sufficient to bring in the
9 power that is needed to the area in the long haul.

10 And we have basically taken all the
11 short-term mitigations, i.e., voltage support,
12 i.e., remedial action to do that.

13 And Sutter Power Plant, in all honestly,
14 the reason we allowed that to be interconnected,
15 we were better off with it than without it, even
16 if ramped down. That was the logic that Western
17 used to allow that interconnection.

18 But if you look around the blue circle,
19 if you can see it, that is the greater Sacramento
20 area. This is highly exaggerated and highly
21 simplified, but you can simplify it.

22 We have looked at basically building
23 transmission to the south, to the north, and to
24 the west. We know what is needed to be done in
25 terms of increasing the import to the area. But

1 institutionally we are handcuffed because Western
2 is a federal agency, we do not have the obligation
3 to build for load growth. That's our problem.

4 Others, everyone has a good reason for
5 not doing anything. But I submit to you today,
6 doing nothing is not a good thing. We've already
7 seen the price of it. I heard the last estimate
8 was \$30 billion for this monster, and it's going
9 up.

10 So I appeal to you that we ought to
11 really look at the public good aspect of what we
12 do, and give the transmission owners, whether it's
13 federal, state, local, investor-owned, otherwise,
14 give them the ability to do the things that we
15 know that's going to do good.

16 Look at Path 15, for instance. We have
17 studied that project for 20 years, for god's sake.
18 Now we are finding that we should have done it.
19 There are projects like that.

20 Sacramento, it is like an island just
21 exactly like San Francisco. You are limited by
22 different factors. We don't have the body of
23 water around us, but the population is a limiting
24 factor. There are very few ways that you can get
25 into the area.

1 Having been before the public, built a
2 transmission line, I understand that very well.
3 So I know if you go to the people that are running
4 an operator system, they have a fairly good idea
5 what is needed to be done.

6 So I appeal to you in this process if
7 you can do anything, streamline this process. It
8 will do everybody a lot of good.

9 And I'd be glad to basically -- whenever
10 the issues come up.

11 PRESIDING MEMBER LAURIE: Thank you,
12 Morteza.

13 COMMISSIONER PERNELL: Your suggestion
14 is to streamline the permitting of transmission
15 upgrades, or the transmission grid?

16 MR. SABET: I'm suggesting, you know,
17 asking the generator-developer to pay for the
18 downstream infrastructure I don't think is going
19 to work, because the generator-developers, they do
20 not have, you know, I'm not promoting any
21 generator, we are an independent body. We have no
22 interest in the load or the source.

23 Having them to basically bankroll the
24 downstream infrastructure upgrade and still be
25 competitive is going to only discourage them. We

1 have to build a water/sewer system big enough to
2 our basic imagination for what we think the state
3 system is going to look like, which we already
4 know.

5 Look at San Francisco, you either have
6 to build lines into the City or generation in the
7 City. That's no different than Sacramento or San
8 Diego or any other constrained area.

9 So, since we know from the public point
10 of view you cannot site a generation in downtown
11 San Francisco or Sacramento, the answer should be
12 fairly obvious. We got to build your import, your
13 bridges to the outside.

14 COMMISSIONER PERNELL: All right, and
15 actually I agree with that philosophy. My
16 question is who pays for that. You're saying that
17 if we tag the generator that's going to slow down
18 the project, perhaps they will go somewhere else,
19 and then we lose the generation. But who pays for
20 the upgrades of the system?

21 And I guess the second question to that
22 is the people that own the system, as I
23 understand, gets the revenue from it through
24 charging or wheeling, and so if the state stepped
25 in and said we want to upgrade the system and

1 we're willing to pay for it through the ISO or
2 whatever mechanism, do the ratepayers get part of
3 that revenue from wheeling?

4 MR. SABET: The ratepayers basically to
5 have to subsidize the current cost of the
6 infrastructure as well as the supply side. The
7 question is what is the best combination of the
8 two that brings the ratepayers the lowest cost.
9 That's the issue at hand.

10 In terms of a transmission owner, as of
11 today, the transmission should be cost based, and
12 will continue to be cost based, at least from what
13 I know, because of the public, you know, good, and
14 the feature of the transmission that transmission
15 brings about.

16 In terms of the ratepayer getting any
17 benefit, the benefit would be the sustained, the
18 economic health, that basically the reliability of
19 the system instead of the chaotic situation that
20 we are experiencing this past few years.

21 Not to the ISO's fault, you know, they
22 inherited the system.

23 But the issue is do we have a health
24 infrastructure that it is economic enough to
25 attract both the generator and the load to the

1 state. The answer to date is that is not the
2 case. But I hope that we are going to get there.

3 We have had enough to just basically
4 deal with transmission-generator. Bringing the
5 load into the discussion in terms of benefit, I
6 don't think is going to help. That's my humble
7 opinion.

8 COMMISSIONER PERNELL: I appreciate
9 that, thank you.

10 PRESIDING MEMBER LAURIE: Let me address
11 the issue of competitiveness. Your statement was
12 that generators don't want to pay for downstream
13 because it affects their competitiveness.

14 MR. SABET: That was one of the factors.
15 And the other one was the time. Because when we
16 discussed the Sutter Power Plant to the extent,
17 when I testified before this Commission, the issue
18 was the need for having the generation on line as
19 soon as we can, whereas the transmission line, by
20 its very linear characteristics, it brings out a
21 lot more public involvement.

22 And the generators had basically two
23 arguments. One was if I added another, like in
24 the Sutter case, another \$30 million to my
25 increased costs, I already have other mitigation

1 that they have to make, plus two years of time. I
2 may not be able to build this plant and still be
3 finance it.

4 And the other factor --

5 PRESIDING MEMBER LAURIE: Let me begin,
6 go back to our highway 50 analogy. Both the City
7 of Folsom, now, and the County of El Dorado, and I
8 believe the County of Placer, on 80, require
9 developers to pay into a state highway fee that
10 pays not only for onramps and offramps, but
11 actually improvement to the highway system because
12 the state says we're not going to pay 100 percent
13 anymore.

14 So, a developer goes to build a
15 development in El Dorado Hills and says, you know,
16 you're going to add \$1000 onto every home, you're
17 going to make me noncompetitive. And they will
18 all say that. Well, they are correct, unless
19 \$1000 is added onto everybody's project.

20 So I think what the development industry
21 knows, they may not be saying it, but what I think
22 they know is what they mean by noncompetitive is
23 not the fact that they're going to be charged, but
24 the fact that they may be charged when not
25 everybody else will be charged. That would make

1 them noncompetitive.

2 MR. SABET: You're absolutely right.

3 I've heard discussion with several generators.

4 Right now our transmission is more or less

5 overbooked, it's not up there -- overbooked

6 because, you know, we agreed to have these

7 generators come in because they are close to the

8 load, they unload the transmission in a sense.

9 And even with remedial action, when they

10 are close to load they do good for the area. In

11 terms of the generators financing the downstream

12 project, I think all of those that I've dealt

13 with, which there are many, they are not adverse

14 to the fact that contributed fund for the good of

15 all system. But they do not want to be stuck with

16 the capitalized investment and be responsible as

17 the onramp part of the deal.

18 PRESIDING MEMBER LAURIE: Right, and --

19 MR. SABET: And I don't know if I can

20 blame them.

21 PRESIDING MEMBER LAURIE: -- so the,

22 again, roadway solution to that is all they do is

23 throw a bunch of money in the pot and somebody

24 else, ISO, some other entity, takes responsibility

25 for actually get it done.

1 And so if we're just talking about
2 dollars, the financing end of the generator scheme
3 can figure out whether or not those dollars will
4 work, and it's easy for them.

5 MR. SABET: Absolutely.

6 PRESIDING MEMBER LAURIE: Great.

7 MR. SABET: The other issue I was going
8 to do, like Western, again being a public body, we
9 insist that if the generators are co-located in
10 the same general area, we do not incrementize the
11 transmission investment.

12 We will insist that they sit with us, if
13 they don't want to go public, all together, that
14 we solve the problem as a whole, rather than
15 incrementally.

16 And so far I've had a lot of positive
17 response from the generators. Because it is to
18 their best business interests, as well. Because
19 if you have to build a 500 kV or 230 kV line,
20 accommodate everybody, rather than several of
21 those, and have it incrementally financed. That's
22 no way to run the railroad.

23 PRESIDING MEMBER LAURIE: Thank you.

24 MR. SABET: You bet.

25 DR. TOOKER: Thank you. Just a reminder

1 for those panel members in the afternoon, if you
2 do have any overheads or if you do have any power
3 point presentations, Sandra would like to receive
4 them when we break for lunch.

5 Yes, if you have them today, and if you
6 have electronic copies of what you've presented,
7 we would like to receive those for the record, as
8 well. And you can coordinate with Sandra on that.

9 Our next speaker from Pacific Gas and
10 Electric is Manho Yeung.

11 MR. YEUNG: Good morning.

12 PRESIDING MEMBER LAURIE: Good morning.

13 MR. YEUNG: My name is Manho Yeung from
14 Pacific Gas and Electric Company. I'm the Manager
15 of Transmission Planning at PG&E.

16 Two of the main responsibilities that I
17 have, one is on generation interconnection
18 studies. The second responsibility is on grid
19 expansion planning. So the two are very tied
20 together. One is focusing on connecting
21 generation facility; the second portion is
22 focusing on planning the system to be able to
23 support the demand increase in the system to
24 provide reliability and service to customers.

25 And it is with that in mind when we put

1 together this material hoping that most of the
2 information on interconnection facilities will be
3 covered by the ISO. And thank you, Jeff, for
4 taking care of that.

5 The material is focusing on two major
6 items here to supplement the information that has
7 been talked about already this morning.

8 The first item is on how PG&E have been
9 doing in doing these generation interconnection
10 studies. The second item is on what additional
11 things that my company is doing to try to
12 accommodate the generation projects, and
13 especially with the short timeline that people are
14 expected to have the analysis completed.

15 This overhead basically tabulated the
16 amount of work that had been done year 2000, and
17 also up to date, 2001. So basically it's covering
18 the past 14 months of work at PG&E that we have
19 completed about 35 generation interconnection
20 studies in this timeframe.

21 And I would say that we're actually
22 seeing much much more activities in the past few
23 months as compared to early year 2000.

24 The average time that we have taken for
25 completing these analyses, I think one of the

1 major factor is depending on the size of the
2 proposed project.

3 For projects that are having a total
4 combined output of more than 100 megawatts, and
5 basically ranging from 100 to 500, up to 1000
6 megawatt, the average time that it actually took
7 us to do these analyses has been average around
8 145 days.

9 On the other hand, for the second
10 category of projects that are less than 100
11 megawatt, and these are typically smaller sized
12 units, and because of the impact typically is less
13 to the system, and we were able to complete that
14 basically within 50 days.

15 The next one is a graphical
16 representation to provide a little bit more
17 details on the studies that have been done in the
18 past. And it's into the bigger size projects to
19 the left of the chart, and the smaller size
20 projects to the right of the chart.

21 One is showing is for providing
22 information on the size of the particular project,
23 which is on the bottom of the x axis. And with
24 the corresponding actual time that it took PG&E to
25 complete the analysis.

1 And you can see that for the 12 projects
2 that are shown on the left of the chart, their
3 average is about 150 days or so, with some
4 variations to it. I think the one that took the
5 longest was about 200 days. And I think part of
6 the reasons was there was a lot of iterations
7 going through on the study plan, itself, as well
8 as the developer having a need to do supplementary
9 studies, to provide additional information on the
10 interconnection.

11 And obviously for projects that have
12 smaller size, which is to the right of the chart,
13 that we have taken between 20 days to 80, 100 days
14 to finish those analysis.

15 Moving on to the type of studies that we
16 have been doing, Jeff talked about the so-called
17 traditional studies that PG&E have been doing for
18 generators. The system impact studies that
19 typically takes about 60 days. The facility
20 studies takes another 90 days or so. So, if the
21 developer is asking PG&E to complete both
22 analyses, the total time would be in the range of
23 150 days for both studies, being done on a
24 sequence.

25 We also provide an expedited study that

1 basically combines both analysis together. And
2 that taking roughly 90 to 120 days.

3 And there are two additional studies
4 that we do on a case-by-case basis to try to
5 expedite further on the time schedule to getting
6 these analysis completed.

7 The first type is analysis that we have
8 been doing to support the ISO summer 2001 RB
9 effort, that is a request for proposal, request
10 for bid for signing up peaking generation to be
11 available for summer of 2001. And we have been,
12 which I'm going to go into a little bit more
13 detail in the next couple of pages on what they
14 are, and the timeframe for that.

15 The second special studies that we are
16 in the process of developing is a framework
17 analysis to implement the Governor's executive
18 order that requires interconnection studies to be
19 completed in seven days.

20 For the summer 2001 work that we are
21 supporting the ISO, the study, in general, takes
22 three to four weeks to be completed. And the rest
23 of the slide here is to provide some of the
24 specifics on what are the analysis will be
25 included in that type analysis, as well as things

1 that are not included.

2 Basically this is focusing on, in a
3 technical term, on how the impact of this proposed
4 power plant would have on the overall system. And
5 this is being done on a focus basis, meaning that
6 instead of looking at the entire western state,
7 this will be looking at using engineering judgment
8 to focus on a more localized area, because the
9 generation proposals for this project typically
10 are of a smaller size. Typically they are 50
11 megawatt or less. So there's no need to do a very
12 extensive study, which is time consuming, to look
13 at the entire state or all the western state in
14 this -- states that are either WSCC system, for
15 example.

16 And also we are not doing some of the
17 more extensive analysis that the dynamic studies
18 and post -- studies that are more detailed in
19 nature, that typically is not a concern for
20 generation that are 50 megawatt or less.

21 And PG&E has done about ten of these
22 projects so far. And on average they took 21
23 days, as an overall average for these ten
24 projects. And we have provided some additional
25 information here that for four of those projects

1 have actually signed agreements with PG&E so that
2 the construction of the actual connection can take
3 place.

4 There are six other projects that the
5 analysis have been completed, and that we are
6 working on the agreement with the developer. So
7 that the actual facility can be constructed for
8 interconnection.

9 In order to meet the requirement of
10 finishing an interconnection study within seven
11 days, PG&E have provided another study to
12 accomplish that. And this is very similar to the
13 work that we're doing to support the ISO on the
14 summer 2001 projects. The only difference here is
15 that this study, because we only have seven days
16 to finish it, will be focusing on the technical
17 portion of the analysis, and less on the cost
18 estimate to make the connection.

19 That's the last slide on my prepared
20 material. Thank you.

21 PRESIDING MEMBER LAURIE: Can you
22 describe the process that you use internally for
23 developing your studies when ISO calls you up and
24 says we're sending over another application for
25 you to help us study?

1 How do you fit that into your own
2 internal process, and do you prioritize based upon
3 some criteria? If time is of the essence, do you
4 just take them one at a time, or is there some
5 priority criteria that's given?

6 Such as when National Energy Group has
7 an application pending, not that you would do
8 that, but as an example?

9 MR. YEUNG: Right. The process actually
10 starts with the developer approaching PG&E. And
11 submitting the application to PG&E instead of to
12 the ISO. I think that's the normal process.

13 And with that, we would look at the
14 application to make sure that the information that
15 PG&E will be needing to start the analysis and
16 complete the analysis are all in place. And
17 basically working with the developer in close
18 coordination and cooperation with them to make
19 sure that the adequate information is available
20 for PG&E to start the analysis.

21 And at the same time we will approach
22 and contact the ISO to let them know that we have
23 this application and request for study.

24 And the next step after that is to work
25 with the developer and the ISO to come up with a

1 study plan that can be mutually agreed by all
2 three parties. Because it is very critical to
3 have the study plan agreed, or in place and agreed
4 upon, so that there's no confusions about on what
5 type of analysis will be done, or what area the
6 study will be focusing on. As well as the time
7 schedule for doing the study.

8 And in terms of priority, the way that
9 the -- we don't really have a -- the main thing
10 that we're focusing on is when the request is
11 being made. It basically is based on a first-
12 come/first-served basis. We are in a way blind to
13 whoever is, who the person is asking for the
14 study. It mainly based on a first-come/first
15 served basis, and we actually have a mandate to
16 complete these analysis within a certain date, the
17 60 days and the 90 days that we have to do it.

18 Similar to the speaker from San Diego
19 earlier that getting, trying to have enough
20 resource or the right people to do the analysis
21 has been a constant challenge to us.

22 But on the other hand we don't really
23 have a choice to not do a particular analysis.
24 But focusing on what process improvement we can do
25 so that we can reduce the cycle of time. What

1 coordination and cooperation that we can get, or
2 we can achieve with the developer to a better
3 understanding on what work would be needed, what
4 will be done, as well as working with the ISO on
5 the study plan, as well as on doing the process
6 that the study's being conducted. So that the ISO
7 will take less time in approving the end result,
8 which is the interconnection study and its
9 findings.

10 To have close coordination with that so
11 that they can get that done quicker. Or basically
12 using a multi-tasking approach to that.

13 PRESIDING MEMBER LAURIE: Okay,
14 excellent.

15 MS. SHAPIRO: I have one question. Have
16 you done any of these seven-day studies under the
17 executive order?

18 MR. YEUNG: No, not yet. We're still in
19 the process of fine tuning what the study may look
20 like, as well as the study plan and the agreement.
21 I believe that we have received about five or six
22 requests the past few days. So we're working on
23 working with the developer to make sure that we
24 have the right information to study the analysis.

25 COMMISSIONER PERNELL: As you're doing

1 these studies, at the end of those do you look at
2 then the entire PG&E system and see what effect
3 all of these individual projects or studies have
4 on your entire system?

5 MR. YEUNG: I would say yes and no.
6 These studies are done one at a time looking at,
7 basically looking at how the system will perform
8 with and without this particular generation
9 proposal.

10 So it's very piecemeal in that sense.
11 But on the other hand, remember we talk about the
12 queuing process and the need to make sure that the
13 queue is being clear on who are in place before
14 this particular generator.

15 The study methodology that we have been
16 using with the close coordination with the ISO is
17 to include all the developers, all the plans that
18 have been proposed before this particular
19 generation project.

20 So, in a way, even though we're looking
21 at it one at a time, but the study would have
22 included the impact of all the proposals that are
23 before this particular request, queuing position.

24 It may not be the perfect way to look at
25 the overall impact of these generators, but it is

1 a good proxy way to look at what the impact is to
2 the system.

3 You also asked about the state of the
4 transmission system a little bit earlier on PG&E,
5 was San Diego and was Southern California Edison.
6 And I may add that -- and I want to say thanks to
7 Jeff for giving us a three, which is kind of like
8 a passing grade --

9 (Laughter.)

10 COMMISSIONER PERNELL: It was an
11 estimate.

12 MR. YEUNG: Estimate, right. And I
13 would say that there is a reason for that. And I
14 would attribute it to two main reasons.

15 One is looking at the demand increases
16 in the past ten years, and especially in the PG&E
17 area. In the early 1990s demand has been
18 increasing at 1 or 2 percent, in that range. But
19 for the later part of 1990s, between 1995 and year
20 2000, 2001, we have been seeing a tremendous
21 increase in growth.

22 For example, the Bay Area, the peak
23 demand for the Bay Area in year 2000 was around
24 8400 megawatts -- I'm sorry, for 1999 was about
25 8400 megawatts. For year 2000 it jump up to 9100.

1 So in one year we saw a 7, 8, 9 percent increase,
2 which is two or three times than what we had been
3 seeing in the early 1990s.

4 And if one is looking at the investment
5 that PG&E had been making to its transmission
6 system, I think one can see a similar trend. That
7 in the early 1990s, on average, we were spending
8 about \$50-, \$60-, \$70-million per year.

9 And for the year 2000 we have spent more
10 than \$200 million. And for year 2001, we
11 expecting, and we are proceeding with projects
12 that would have a total investment of about \$150
13 million for this year. And for the year 2002,
14 similar to the chart that Jeff showed to you
15 earlier today, we're looking roughly at about \$200
16 million again.

17 So the numbers that you see on the
18 overall for the state, I would say a large portion
19 is PG&E investments.

20 COMMISSIONER PERNELL: All right, thank
21 you.

22 MR. YEUNG: So we trying to catch up.

23 COMMISSIONER PERNELL: Yeah.

24 PRESIDING MEMBER LAURIE: Thank you,
25 Manho.

1 MR. YEUNG: Thank you.

2 COMMISSIONER PERNELL: I would just say
3 that I think the growth in the energy use caught
4 everybody by surprise, so not just PG&E.

5 PRESIDING MEMBER LAURIE: Did we lose
6 Mr. Tooker, again?

7 MS. SHAPIRO: Well, we're going to Al,
8 anyway, and Al's here, so let's just get him up.

9 MR. BUELL: Mr. Tooker has left, but I'm
10 back, so I think the next person on the agenda was
11 Al McCuen, and I understand Al didn't have
12 anything he wanted to add to the discussion? If
13 I'm mistaken, Al, take the stage. Otherwise, we
14 can move on to public comments.

15 PRESIDING MEMBER LAURIE: Thank you.
16 We'll take some minutes for questions or comments
17 from the members of the audience at this time, if
18 any you have?

19 Please.

20 MR. PIGOTT: Good morning, I'm Jack
21 Pigott from Calpine. I like the way that the
22 discussion has gone this morning, but I just
23 wanted to point out a couple of the different
24 aspects about who pays for the transmission
25 upgrades, and the queuing process.

1 We've been involved with interconnecting
2 some of our new plants, both with Western and with
3 PG&E. And one aspect that you need to consider is
4 that doing an interconnection agreement is not
5 just an engineering study. It's a business
6 negotiation.

7 And while we can look at timelines and
8 say, well, yes, you have so many days to complete
9 this, and so on, it's difficult to put a timeline
10 on business negotiation.

11 And to the extent that the cost
12 allocation is determined ahead of time, that most
13 of these costs are going to either be rate-based,
14 or be wrapped up in grid charges or something like
15 that, you remove a lot of the issues from the
16 business negotiation and it becomes a much faster
17 process.

18 The other aspect with regard to queuing,
19 that is a major issue, also, that when cost
20 responsibility is removed, it becomes a lot less
21 contentious. And to the extent that your position
22 in the queue has a large financial impact, there
23 are a number of generators, it creates the
24 potential for litigation that can greatly slow the
25 process down, as well.

1 So, we're all in favor of not having the
2 individual generators be responsible for the bulk
3 of that. And I realize that has to be within
4 reason. There are sites that just don't make
5 sense from the transmission standpoint, but I
6 think most generators try to pick sites that are
7 close to load and where it makes the most sense.

8 PRESIDING MEMBER LAURIE: Are you going
9 to be here, are you going to stick around for the
10 afternoon session?

11 MR. PIGOTT: Yes.

12 PRESIDING MEMBER LAURIE: We'll be very
13 interested in hearing your comments about, as
14 active as Calpine is, your interests are not only
15 site specific, it's systemwide. I'll be
16 interested in your comments about the role of the
17 generators in transmission planning. And how all
18 that fits in. So I'd look forward to additional
19 comments this afternoon.

20 MR. PIGOTT: Okay, great. Thank you.

21 PRESIDING MEMBER LAURIE: Okay, thank
22 you, Jack. Anybody else --

23 COMMISSIONER PERNELL: One other
24 question for --

25 PRESIDING MEMBER LAURIE: Sir. Jack.

1 COMMISSIONER PERNELL: Excuse me, --

2 MS. SHAPIRO: Jack.

3 COMMISSIONER PERNELL: -- Jack. I'm
4 sorry, you mentioned about queuing. Is there --
5 and it seems to me from the conversation I've
6 heard this morning, that that is the preferred way
7 in which, maybe not preferred, but the way in
8 which the generators have kind of positioned in
9 the queue.

10 Do you have any recommendations of an
11 alternative scenario?

12 MR. PIGOTT: Well, you mean with the way
13 to completely do away with the queue, if everyone
14 were treated equally, there wouldn't be as much
15 need for a queue. But I guess you still have the
16 issue of who gets treated first, when you have
17 your application in and so on.

18 We certainly like the idea of being able
19 to do our own facility study using our own, you
20 know, approved contractor, so that maybe the
21 position in the queue isn't quite as crucial.

22 I don't know if you can totally do away
23 with it, though. But I think you could make it a
24 lot less controversial than it's been.

25 COMMISSIONER PERNELL: Okay.

1 PRESIDING MEMBER LAURIE: Thank you.

2 Additional comments?

3 If not, let me extend our appreciation
4 for --

5 COMMISSIONER PERNELL: I think we had
6 one other, one from the panel.

7 MR. McCLUSKEY: I had one question.

8 PRESIDING MEMBER LAURIE: Oh, yes, sir.

9 MR. McCLUSKEY: It's my understanding
10 that an applicant maintains its position in the
11 queue once it gets into it by meeting certain
12 milestones in the siting process, or in the
13 interconnection process.

14 I'm curious to know what would be the
15 most common milestone missed as a reason for
16 moving someone back in the queue or out of the
17 queue. That's for anyone out there that has
18 experience in these areas.

19 MR. SABET: I had a question. I think
20 it would be serving us well if we actually defined
21 the queuing, because there's a lot of myth and
22 folklore around what queuing is, before we get
23 into a discussion of it.

24 I personally interpret, you know,
25 Western has an open access tariff voluntarily

1 because we are not FERC jurisdiction, but we did
2 mimic the order 888 and 889.

3 The way we interpret it, if you look at
4 it from an investment of a public grid point of
5 view, queuing could be only the incremental
6 analysis in terms of investment. I think you
7 could look at it a little more broadly in terms of
8 infrastructure.

9 In other words, you do not require every
10 increment of transmission, especially if they're
11 in a general location.

12 Like using Commissioner Laurie's
13 example, like for distribution for instance, we
14 have had this division tariff, somebody built a
15 cabin in the woods. Basically get stuck with the
16 first line extension costs, period.

17 And it doesn't make any business sense
18 to build that line extension as small as possible.
19 You build it for the size of the voltage, for the
20 long term use. The other cabins, when they build
21 it, they share the cost from that time on.

22 I think there are creative ways to deal
23 with the queuing position, and most of the
24 generators, being in the business, would have no
25 ratepayers behind them, they're very receptive to

1 those discussions.

2 But I would appreciate it if there is a
3 discussion of it in front before we get into
4 analyzing it.

5 MR. McCLUSKEY: I wasn't so much
6 interested in analyzing, but simply taking, I mean
7 given the fact that it is a contentious issue in
8 process --

9 MR. SABET: Yeah, Jim, I didn't mean any
10 disrespect --

11 MR. McCLUSKEY: No, no, that's fine,
12 that's fine. And given my understanding, at
13 least, that there are certain milestones that an
14 applicant has to meet during the queuing, during
15 the interconnection study process, and also -- and
16 some of those relate to the CEC siting process,
17 right.

18 MR. SABET: Yeah, we are maintaining the
19 queue, we can talk about it.

20 MR. McCLUSKEY: Yeah, and given that,
21 are there certain milestones that are missed
22 commonly that would initiate an applicant's
23 movement in the queue, or removal from the queue.

24 MR. SABET: Just to answer for you. We
25 have like an interconnection study that has a one-

1 year term. For instance, we do the study, do the
2 system impact, as well as do the facility studies.
3 If the applicant is not basically stepping up for
4 interconnection agreement, they're out of the
5 queue, out of that year.

6 Some applicant have chosen to do so.
7 Some not. Some actually have come for a
8 transmission service request, because, you know,
9 parallel.

10 So it is not, you know, if I have any
11 point, it's not one size fit all. Let's be
12 careful in defining queuing, and then discuss the
13 problems with it.

14 PRESIDING MEMBER LAURIE: Thank you.
15 Those that are going to be appearing this
16 afternoon, we're looking forward to it. And those
17 that can stick around, we're looking forward to
18 seeing you. See you at 1:00. Thank you.

19 (Whereupon, at 12:05 p.m., the workshop
20 was adjourned, to reconvene at 1:00
21 p.m., this same day.)

22 --oOo--

23

24

25

1 AFTERNOON SESSION

2 1:08 p.m.

3 PRESIDING MEMBER LAURIE: We are going
4 to get started -- may or may not show up, but
5 there's no point in keeping you all waiting.

6 What we're going to concentrate on this
7 afternoon, I think the topic is congestion. And
8 I'm also interested in, and this has to involve
9 the planning and remedies, as we've talked about
10 today.

11 I'm also interested in the ultimate
12 question of whether congestion or constraints that
13 will be a barrier to the licensing, to the siting
14 of plants in the near or more distant future, if
15 you have any thoughts about that.

16 So, without further ado, let's go ahead
17 and start with Mr. Miller from Cal-ISO, again.
18 Afternoon, Jeff.

19 MR. MILLER: We just have a very brief
20 presentation for you on congestion. We talked
21 about it an awful lot this morning in the other
22 session, and I --

23 PRESIDING MEMBER LAURIE: Yeah, that was
24 fine.

25 MR. MILLER: Yeah, it's the interesting

1 policy issues surrounding generator connections,
2 for sure.

3 One thing I'd like to point out is
4 congestion isn't necessarily bad. Congestion is
5 intended to provide some signal to the generators
6 about where they should locate.

7 We set up the congestion management
8 scheme so that specific areas of the grid would be
9 less appealing to the generators than other areas
10 of the grid. So I think, while we have to
11 recognize --

12 PRESIDING MEMBER LAURIE: Let's stop
13 there, because that imposes some interesting
14 policy questions. Let's say you were head of the
15 Governor's office of planning and research. And
16 charged with overall guidance for state land use
17 policy. And you have to think about where growth
18 should go, the number of factors that will
19 determine where growth should go.

20 One factor is what are your
21 transportation systems. And an issue in
22 residential growth is if you build highways they
23 will come, and is that really what you want. Or
24 do you want to develop your residential
25 development along different criteria, and then

1 provide sufficient transportation to serve that.

2 And so that's the question. Do you
3 consider where the generation should be created in
4 your planning practices?

5 MR. MILLER: We do what we can to
6 encourage generators to locate in areas that make
7 sense, at least from our perspective of looking at
8 the electrical performance and expansion costs of
9 the transmission system.

10 We send them a few signals to try and
11 get them to locate in good areas. We have
12 congestion which generally only implies when
13 you're trying to transfer the power over a fairly
14 large distance, they located the plant fairly
15 remote from a load area, and you end up with these
16 transmission congestion charges they have to pay,
17 in addition. That hopefully encourages a
18 generator to get closer to the major load areas.

19 We also --

20 PRESIDING MEMBER LAURIE: Well, of
21 course, the challenge there is that it's more
22 difficult to license a power plant in an urban
23 area than in a rural area.

24 MR. MILLER: Exactly.

25 PRESIDING MEMBER LAURIE: All right.

1 MR. MILLER: And if you were at the
2 Metcalf the last few days, the Metcalf hearings,
3 I'm sure you had an earful of that.

4 It's a policy issue that people that
5 site power plants have to weigh. Is it better to
6 put the costs of additional transmission
7 facilities and the environmental impact of those
8 facilities on the, you know, one the people, or is
9 it better to put a plant closer to load and deal
10 with the environmental impacts of that plant.
11 It's a difficult policy issue but you have to
12 weigh those different set of environmental
13 impacts.

14 We also try to send a signal with our
15 loss factors to the generators to locate closer to
16 load. You can actually get a credit for your
17 generation if you're in a particularly good load
18 area.

19 By that I mean we apply a factor to
20 their meters and we meter them to account for
21 losses. Typically it might be .98, so 2 percent
22 of their power is eaten up in losses.

23 But we also have the ability to greater
24 than 1, we can give them a 1.01.

25 PRESIDING MEMBER LAURIE: Can you

1 summarize for us what losses are per mile, per ten
2 miles, per 100 miles? Are you able to do that?

3 MR. MILLER: I can give you a rough
4 idea. It varies a lot with the size of conductor
5 and all that, but just to get a rough idea of what
6 transmission losses are, we can bring power down
7 from the Northwest at less than 4 percent losses.
8 And that's to the distribution system. There
9 might be more losses on the -- there would be more
10 losses on the distribution system.

11 But average transmission losses would be
12 less than the 4 percent, so we're only talking
13 about a few percent overall transmission losses.

14 The way we, just kind of an aside, but
15 we actually have a model that looks at all the
16 different points of injection for generation,
17 figures out what the average, it's called scaled
18 marginal losses would be for that generating unit.
19 And that's how we base our factors for what to
20 either ding or add to their generation output to
21 account for losses.

22 And the generators pay for all the
23 losses on the grid. The ratepayers don't.

24 PRESIDING MEMBER LAURIE: So, aside from
25 the 2 to 4 percent loss, everything else being

1 equal, from a pure transmission perspective what's
2 the advantage to the generator of locating at the
3 load?

4 MR. MILLER: There is not much advantage
5 to them. They can avoid congestion charges,
6 potentially. And we're trying to find a way to
7 incent them to locate closer to major load areas.

8 There is the ability for some of them to
9 obtain some contracts to locate in these
10 advantageous areas, for instance the Los Medanos
11 Energy Center has a contract with us. Because we
12 wanted them, and that was a good location, we
13 wanted them to come on line within a certain
14 period of time.

15 So, there are some incentives that we
16 can apply, but there isn't any -- but those are
17 things that are normally initiated by the
18 generation developer. There is no normal process
19 that they go through and automatically get certain
20 incentives for locating next to a major load area.

21 We are intending on submitting to the
22 FERC a new long-term grid planning policy and new
23 generator connection policy. And in that there
24 may be some aspects that provide some incentives
25 to generators to locate --

1 PRESIDING MEMBER LAURIE: Are you able
2 to summarize that for us today?

3 MR. MILLER: I could. It's in flux
4 quite a bit. The new generator connection policy
5 is along the same lines of what we talked about
6 today. What we're going to do is specify in there
7 a specific queuing procedure. We're going to
8 specify a process for running studies, for
9 timelines of studies. We're going to have a
10 procedure for essentially what those studies
11 should cover. We're going to have the policy
12 issues of whether or not they have to fix
13 downstream impacts on the transmission system.

14 And as I discussed earlier, we're going
15 with the FERC direction, FERC told us this, that
16 the generators will not be responsible for
17 mitigating those downstream impacts.

18 And then as far as long-term grid
19 planning, we're trying to put in place a planning
20 process where you could potentially weigh proposed
21 transmission additions on the system against other
22 things that you could do to meet that same
23 reliability need, such as reducing demand or
24 adding generation.

25 We're trying to find a way to give them

1 an incentive through that process to locate in
2 optimal areas. There's a big question mark over
3 both of those policies right now because we have a
4 brand new board, and we don't know what that brand
5 new board is going to say when they see those
6 policies. They may feel very differently than the
7 stakeholder groups that --

8 PRESIDING MEMBER LAURIE: And this is
9 your Governor-appointed board?

10 MR. MILLER: Yes. It's meeting today.
11 But anyway, in a nutshell that's what those two,
12 the long-term grid planning and new facility
13 connection policies are.

14 PRESIDING MEMBER LAURIE: Who do you
15 think it is that is responsible for grid planning?

16 MR. MILLER: For the ISO grid, the ISO
17 considers itself to have the overall
18 responsibility but we rely very heavily on all the
19 work that's done by the participating transmission
20 owners.

21 PRESIDING MEMBER LAURIE: And if we were
22 to ask the participating transmission owners,
23 would they concur with your view?

24 MR. MILLER: They might not. They might
25 feel that it was their primary responsibility,

1 which is fine --

2 PRESIDING MEMBER LAURIE: I only know
3 it's been a debate since day one, and I didn't
4 know if there's progress on that issue of, you
5 know, a division of responsibilities.

6 MR. MILLER: We don't have written
7 anywhere who is number one as far as
8 responsibility for the grid, but one thing that
9 has happened as we've gone through this process is
10 we've been able to work cooperatively with the
11 transmission owners. And I think we've really had
12 essentially no major disputes that had to be
13 resolved through ADR.

14 So we've been able to jointly develop a
15 transmission system that we're both comfortable
16 with. So, while it's an interesting policy issue,
17 it hasn't presented a problem to us.

18 PRESIDING MEMBER LAURIE: Just for
19 general discussion it should be noted that as I'm
20 sure you're all aware, over the last few years the
21 Energy Commission had been out of the business of
22 energy planning from a siting perspective.

23 I don't have a good sense of what we did
24 before '96, and I don't know how specific we got.
25 I do know that in our energy Electricity Reports,

1 I guess, we used to have overall policies.

2 But I certainly hear in the Legislature
3 today, especially from folks who, big turnover,
4 and a lot of folks simply don't know the history
5 of energy planning. A lot of comments, lots of
6 inquiries about where's our plan. Who's thinking
7 about where the needs are. Who's thinking about
8 where the growth is going to be. And who's going
9 to plan for how we accomplish all that.

10 I would expect the Energy Commission to
11 be giving more thought to the general planning
12 business than they had been in over the last few
13 years.

14 And that goes hand-in-hand with planning
15 for how we're going to transmit our electrons. So
16 I look forward to that. I anticipate there's
17 going to be lots of cooperative effort between our
18 folks and your folks for the next few years.

19 MR. MILLER: Good, I hope we get it
20 resolved soon. It would, with all the uncertainty
21 that's out there now, it would be -- this would be
22 a good issue to tie down.

23 I can tell you that at least from my
24 perspective, although the planning is generally
25 done -- it's done in open stakeholder groups. It

1 just doesn't receive a great deal of attention
2 because it's not the burning issue of the day,
3 which is the shortage of generation.

4 But there is quite a bit of planning
5 that goes on in California. The plans that are
6 developed for the state, I think, they've improved
7 each year. And then this last year in particular,
8 I think they're very good. I think we're
9 addressing nearly all of the criteria violations.

10 There are some big projects that are
11 needed to be able to move power around more
12 efficiently, like on Path 15 and the southern part
13 of the state.

14 But planning is going on. I personally
15 think that the transmission owners are doing a
16 good job of it. And I don't think that there's a
17 major problem, at least with those reliability
18 projects that are necessary to get service to end-
19 use customers.

20 PRESIDING MEMBER LAURIE: What happens
21 if in the future there are disincentives to make
22 application for power plants in urban areas? And
23 so not as a matter of state policy, but as a
24 matter of individual generator policy, they will
25 seek to develop in noncontroversial nonurban

1 areas, forcing generation sites added to the more
2 rural areas?

3 Have you taken that into account at all
4 at this point regarding future plans? What
5 happens when we just have to -- if we have to
6 start building power plants not where the load is,
7 but where reasonable siting opportunities exist?

8 MR. MILLER: Yes, we have. Actually
9 most of the plants that we're getting proposals
10 for now really aren't locating in optimal areas.

11 For example, we talked a little bit
12 about some of the generation that was locating
13 over near the Arizona border, either right on the
14 Arizona side or on the California side, there's
15 quite a bit there.

16 Now, obviously that's not close to our
17 load area, and there could be substantial
18 transmission costs to bring the power in, but
19 we're starting to look at okay, if the
20 generation's going to be there and we've got to
21 get it to the load, what do we need to do to be
22 able to do that. We're starting to think about
23 major new 500 kV lines that would bring the power
24 in from the Arizona area into California.

25 PRESIDING MEMBER LAURIE: Well, what we

1 may be finding out, and I'm interested in others'
2 views about how one handles this, if it becomes
3 more and more of a challenge to site in urban
4 areas, so you go to the rural areas, and we're
5 talking about the high or the low deserts.

6 Well, one problem with that is the lack
7 of availability of water. So you want to go to
8 dry cooling. Well, dry cooling is not efficient
9 in hot weather. So you're running into numerous
10 conflicts.

11 And there's going to have to be some
12 policy decisions made, or some additional costs
13 involved in order to resolve those conflicts.

14 MR. MILLER: I don't think there's a
15 better body to deal with those sort of policy
16 issues than the California Energy Commission.

17 PRESIDING MEMBER LAURIE: Cal-ISO. Oh.

18 (Laughter.)

19 PRESIDING MEMBER LAURIE: Thank you,
20 Jeff.

21 MR. MILLER: Okay. I just want to make
22 a couple more points. One is that while we have
23 congestion management, we try to use that to send
24 signals to the generators. We recognize that our
25 system is not doing all that well.

1 As originally designed, it allows for a
2 number of games that the generators can play, and
3 we're trying to fill those loopholes. And also to
4 provide more efficient signals to the generators.

5 So, we're about to send to FERC, along
6 with those other two policy issues I mentioned
7 this morning about congestion, or actually it's
8 called comprehensive market reform policy, which,
9 as a part of it, includes congestion management
10 reform.

11 And I think the last two points I wanted
12 to make we already covered adequately this
13 morning, so I think I'll just recognize that I've
14 already used up my time, save for the other
15 speakers. Thank you.

16 PRESIDING MEMBER LAURIE: Thanks. We'll
17 come back. Well, should we just go by the list?
18 I don't know where Mr. Tooker disappeared to, but
19 that's fine. Afternoon, sir.

20 MS. SHAPIRO: Rick Buell is here.

21 PRESIDING MEMBER LAURIE: Oh, Rick's
22 here, great. Did you want to offer any comment,
23 or did you want to introduce the panel? Or did
24 you just want to let it go? What are your plans?

25 MR. BUELL: Well, at this point why

1 don't we proceed, since Mr. Eddy Lim is already at
2 the podium. Why don't we go on with the
3 presentation that he had planned. And we'll
4 introduce the panel members as we move along.

5 PRESIDING MEMBER LAURIE: Excellent.

6 MR. TOMASHEFSKY: Are there any handouts
7 to this, yet, or --

8 MR. BUELL: Not to this one, yet. We
9 will have those later. They will be docketed, and
10 it can also be found on our website.

11 MR. LIM: Good afternoon. My name's
12 Eddy Lim; I work for SMUD. I hold two positions
13 at WSCC, one is a member of the WSCC Operations
14 Transfer Capabilities Study Group or Policy Group,
15 as well as the California Operational Studies
16 Subcommittee.

17 I wanted to give you all a little deeper
18 understanding of what remedial actions are. I
19 know we've said the phrase in this hearing and I
20 wanted to give a better appreciation, even using
21 your analogy of the highway system.

22 Because I know a lot of these
23 mitigations such as you've heard, congestion on
24 Path 15, were accomplished using remedial actions.
25 And so I wanted to just give you just another

1 level of detail there.

2 Before we go too far along on what
3 remedial actions are, we need to just pin down a
4 couple definitions, and it makes our conversations
5 easier from my experience, because we talk about
6 this a lot in WSCC.

7 When we use the term remedial actions,
8 it's a global term that includes both automatic as
9 well as manual measures. And these are special
10 preplanned corrective measures to mitigate impacts
11 of disturbance.

12 So, go back to your highway 50 analogy,
13 Caltrans has set up a system when the traffic
14 picks up in the morning, they start to go to
15 metering, and it's an automatic scheme that goes
16 on and starts regulating how many cars get onto
17 the freeway system.

18 As other things happen, say we lose a
19 major corridor, say there's a tanker spill
20 happens, catches on fire on Power Inn Road. Well,
21 their action then is to go to Folsom Boulevard,
22 put all the traffic on, funnel it off the freeway,
23 get it on there, start broadcasting messages, tell
24 people stay home or wait until this emergency
25 subsides.

1 So there's many plans in that analogy,
2 and we're treating the same thing on the
3 electrical grid. Both our manual, as well as
4 automatic.

5 The manual remedies are usually manual
6 load tripping as well as tripping of generation.
7 There are also some actions that can be taken by
8 operators to trip lines also for certain level
9 loads.

10 Now, remedial action scheme, I'll
11 introduce the scheme, itself, are usually referred
12 to as automatic schemes. These things
13 automatically happen out there, and there are
14 decisions being made by computers or by relays,
15 themselves. But they're preplanned and carefully
16 orchestrated.

17 And, of course, they have to abide by
18 the WSCC criteria. And these are reviewed by what
19 we call the RAS review group. And again, these
20 are all approved schemes.

21 The most impressive scheme I think, the
22 impressive scheme we have in the system is for
23 Path 15. That has probably the most, to me it's
24 stretching the imagination, stretching the limits
25 of the system. Ramping down a nuke unit, tripping

1 off load, in response to a line tripping out in
2 that corridor, is very very aggressive.

3 Now, of course there are certain
4 performance levels of RAS, and as you review
5 projects that come across you, it is very
6 important to find out what the performance level
7 it seeks. And WSCC sets the standard in that the
8 RAS, itself, and misactivation of RAS has to have
9 the same performance of what it's protecting.

10 Sounds like a lot of words, but in other
11 words if we're protecting for a single line
12 outage, that means that the misactivation of that
13 scheme has had no worse impact than a single line
14 outage.

15 And so, because these schemes aren't
16 perfect. We think they are because they're not
17 manned, but they are created by man, and these
18 have some faults. They have a lot of potential
19 for false tripping, as well as activating when not
20 supposed to.

21 So, I guess going back to highway 50
22 analogy, Caltrans might send their truck out,
23 their orange truck out with a message sign, even
24 though after the accident's already happened, it's
25 already too late. But again, the traffic's all

1 backed up. And Officer Bill in the morning hasn't
2 got the word out that traffic's really bad.

3 in addition to RAS a lot of these
4 projects are requiring operator reaction, and this
5 is the scary part of it in that all these
6 operators aren't -- there's a variety of system
7 operators there, some that work the ISO, some that
8 work here at SMUD, some that work at Western.

9 And to have manual operating procedures
10 really take care of some of these problems is a
11 very risky alternative than to establish
12 transmission enhancements, true hardware, true
13 wire in the area.

14 In the past I personally have witnessed
15 probably a couple misapplications of operating
16 procedures, or misinterpretations of procedures.
17 And they have some dire consequences. And those
18 dire consequences of shedding customer load. It's
19 the worst thing we possibly ask an operator to do,
20 is to shed load in any system.

21 PRESIDING MEMBER LAURIE: And is that an
22 error by the folks in the trenches doing the work,
23 or is it -- are these managerial issues, or policy
24 issues?

25 MR. LIM: No, they're basically the

1 folks that are in the trenches. We can set a lot
2 of policies here in this committee, but it always
3 funnels down to the actual operator that's at that
4 desk at 5:00 in the morning, or 3:00 in the
5 afternoon, trying to make a decision based on an
6 event.

7 Given the complexity of all these
8 schemes and operating procedures, he has to pore
9 through in order to make the right decision. And
10 one of the Path 15 overload conditions was
11 initiated by a DC event, a parallel line goes out,
12 overloads the path.

13 During a normal, instead of a heightened
14 state of awareness like a stage 3, the proper
15 action would be to reduce the schedules, you know,
16 reduce generation down in the south from going
17 northbound into Path 15 or into the Northwest.

18 But in that case, the operator said,
19 there's alternatives, we shed load yesterday,
20 let's shed load again today to mitigate this
21 problem. Well, it's the wrong thing to do.

22 But again, we don't blame the operator,
23 but there's so many variables and so many things
24 to consider. So, we try to take that pressure off
25 by putting automatic schemes in to take that

1 decision making away, or relieve the operator of
2 that kind of decision making.

3 But, again, these all work in WSCC
4 because we have agreement between all the
5 operators and all the participants on a
6 transmission path.

7 Where, in this case, in the development
8 of all this generation in California, we may not
9 have agreement of all the parties that are in a
10 certain area. I think the industry does promote
11 RAS. It's a good alternative versus very
12 expensive transmission fixes. But, again, it
13 shouldn't be -- to me it should be the last
14 resort, solution, rather than the first solution
15 out of the -- for consideration.

16 PRESIDING MEMBER LAURIE: Let me ask
17 about WSCC for a minute. Can you clarify the
18 extent to which they have any kind of planning
19 role? We've heard some discussions about their
20 ability to offer comment or veto.

21 Do they have any authority? Do they
22 have any planning authority, any regulatory
23 authority?

24 MR. LIM: The regulatory authority that
25 they have is what's given to FERC from what we

1 call the RMS, the reliability management system.

2 And that's the only -- but, again, WSCC, on the
3 whole, is a voluntary organization. It's a forum
4 for getting utilities together to work out what is
5 the standard we're going to operate to. What are
6 the standards for remedial actions. What is the
7 reserve criteria. And these things are being
8 changed and challenged and changed as we speak.

9 One of the big pushes now is to reduce
10 or justify reduce, but just justify the operating
11 reserves in the system. And, of course, the trend
12 is to push it downward. And there's a lot of
13 uneasiness at this point as this is being
14 developed.

15 And that's because we've always had some
16 comfort, some level of reliability. Now we're
17 lowering that bar a little bit potentially, and
18 that creates more potential for load shedding, or
19 exhausting reactive resources that are necessary
20 to support the system.

21 The analogy is to highway 50 again. You
22 go back and say, well, years ago Caltrans would
23 have added a lane to limit the commute to a half
24 hour, some criteria. And they said, well, and
25 that's in case we had to shut down a lane to go to

1 work on it during the day.

2 Well, as the use of that corridor has
3 been expanded, they would say, well, let's not
4 work during the day. And we'll make penalties for
5 contractors to pick up their cones by 4:00 in the
6 morning, because every minute after 4:00 it just
7 gets worse. And then you automatically screw up
8 the commute for that time.

9 In addition to that, they started
10 employing -- I say these operator manual actions,
11 well, let's hire a tow truck company to go out
12 there and get the wrecks off the road, because we
13 know when someone has a wreck, if we don't clear
14 it, it's just a big mess. Rather than expand the
15 freeway system anymore.

16 But do the demand management thing,
17 which is good, let's do the carpool thing, let's
18 try to entice people to carpool, we'll give them a
19 special lane and away they go. And, of course,
20 they do automatic scheme.

21 But they do everything, but rather than
22 wouldn't you like to have another lane on highway
23 50 -- you think it would be much easier than go
24 through a couple days of wet weather when
25 everybody's sliding and having accidents and those

1 things.

2 COMMISSIONER PERNELL: If they decided
3 to do the carpool lane scenario, who pays for
4 that?

5 MR. LIM: Well, for our case it's
6 California, the State of California, Caltrans
7 picks up that cost, doesn't it?

8 MS. SHAPIRO: Well, but in the
9 transmission system?

10 MR. LIM: The transmission system, as
11 far as conservation, it's mainly, I believe the
12 individual utilities right now fund those demand
13 side measures. Or it's from the public goods
14 charge, I hope some of that is being funded from
15 there. And that's a good use for that money,
16 those public goods money, that the ISO is
17 collecting. It's just a natural thing to do.

18 But as an operator in operating the
19 system I see a lot of opportunities out there.
20 And in my growing up in this community there's
21 been a lot of analogies I think we can apply from
22 what we've learned from Sacramento County, itself.

23 And that there's a general plan that's
24 put out by the County, in other words, we've zoned
25 areas for commercial development, for residential

1 development. And we go into detail about do we
2 want seven houses to an acre, or a high density
3 type of living.

4 Well, we create those zones, we create
5 every zone, except for maybe the energy part. So
6 we create a zone for parks, we lay out land for
7 wetlands and everything else, but to develop a
8 park for energy production where you bring in gas
9 transmission, you bring in the transmission lines,
10 those are some of the things that I think could be
11 developed here as a policy and identify those kind
12 of sites.

13 Now, the easiest site that's really
14 here, and Morteza pointed out a few of them in his
15 material this morning, it's like Rancho Seco.
16 Well, we used to have -- a power plant out there,
17 and there's probably capacity there for 2000
18 megawatts and even more. But it's just missing a
19 gas line. It has water, but there's no gas.

20 Now, there's going to be a lot of
21 trenching in the State of California, well, again
22 why not combine some of these efforts to make up
23 public goods transportation system for gas to that
24 site, and you have everything.

25 Without going through the extensive

1 measures of spending \$17 million for remedial
2 action schemes or transmission improvements.

3 There's pockets, I imagine. I mean we
4 all -- I see many planners in this room. We study
5 the system enough. I mean there's a lot of
6 studies going on, to where can identify. We know
7 these places to add generation to the system that
8 will minimize both the need for transmission
9 upgrades, as well as the remedial action schemes
10 or special operator actions.

11 PRESIDING MEMBER LAURIE: What's the
12 role of FERC in regional transmission planning?

13 MR. LIM: Well, I'm not sure I'm
14 qualified to speak to what the role FERC is. One
15 of the places I experienced, we went to FERC for
16 was trying to mitigate some of the transmission
17 access issues with them.

18 So, to me they were a clearinghouse for
19 our problems. We couldn't work it out in the
20 Western Systems Coordinating Council, so we had to
21 take this on to another higher level of court, to
22 say, for resolution to resolve these transmission
23 issues, the impacts and --

24 PRESIDING MEMBER LAURIE: Does FERC want
25 national jurisdiction over transmission planning?

1 MR. LIM: I wouldn't characterize like
2 that. I think they're really relying on the
3 regions to work out, hopefully they're relying on
4 the regions to take care of those problems
5 themselves. I think that's their preference.
6 FERC should be allowed to resort to iron out
7 problems like this.

8 PRESIDING MEMBER LAURIE: Thank you,
9 Eddy, very much.

10 MR. LIM: You're welcome.

11 PRESIDING MEMBER LAURIE: Morteza, good
12 afternoon.

13 MR. SABET: Good afternoon. I was going
14 to kind of hit on a few things. One of them was
15 your question about where to locate the
16 generation. I think we are at that crossroad
17 today, like -- some of the generators that we're
18 dealing with.

19 One of your other questions was who's
20 got the right basically to induce generation near
21 the load or, you know, distance from load.

22 I have been pleasantly surprised, I
23 think the generator-developers, I mean they're big
24 boys and girls, they are already doing what you're
25 basically expecting them to do.

1 In other words, I've seen they have done
2 their homework in terms of where the water and air
3 quality permits are. They're pretty good, they
4 don't need my help. I'm sure they can do it
5 alone.

6 The other issue basically I think
7 they're still wrestling with, in other word, the
8 infrastructure of downstream water and sewer
9 pipeline.

10 One of the things I'm also pleasantly
11 surprised over, since the data is available to
12 everybody now for power flows, they also looking
13 at the risk analysis, where is from their best
14 interest point of view, where to locate.

15 And since the beginning of the ISO I've
16 been extensively referring to people and say the
17 stuff is there, you go look at it. When you're
18 ready you come back to me, and they are doing the
19 right things.

20 The part that is missing, who is in
21 charge of infrastructure. One of your other last
22 question, I hit that one, and before I get to the
23 rest, is the FERC role on the RTA.

24 FERC from the get-go, their interest was
25 to delegate that as lowest level possible. One

1 thing they failed to recognize, in my, again,
2 humble opinion, is the RTAs do not have any
3 jurisdictional authority to do anything that makes
4 a difference, i.e., sit in as a judge on basically
5 the conflict or dispute resolution.

6 Plus most entities that they do have
7 conflict are still going to show up at FERC.
8 They're not doing at the RTA. There are a few
9 cases that are exception, but generally speaking,
10 most disputes are taken to Washington, D.C. Part
11 of it because of the authority to make a decision
12 that is binding.

13 The dispute resolution, as much as we
14 put our heart and soul in it, hasn't really
15 produced the result that was expected. That was
16 one cornerstone of the RTAs. And it didn't really
17 have added value, in my opinion.

18 We spent a lot of time to basically
19 develop a dispute resolution scheme, but people
20 are not buying it.

21 In terms of remedial action we are
22 actually one of the first corporate for the
23 merchant generator except in the dilemma we had in
24 Sacramento.

25 We had a situation the transmission is

1 already over-subscribed. In other words,
2 Sacramento, I'll give you a simple analogy, we
3 have 3000 megawatts of load, about 1200 or 1400
4 megawatts of generation and remaining is imported
5 over a very limited number of line.

6 You know, SMUD has installed all the
7 capacity they could install and they're almost at a
8 point that they can violate the physics of the
9 system.

10 Give you a very simple analogy. You
11 have a two-axle truck and you have all the load on
12 it, you increase the tire pressure. Sure, you can
13 carry more load. But watch out when one of the
14 tires blow up.

15 That's the situation we are in in terms
16 of a voltage collapse control, in terms of keeping
17 the system together for unplanned event.

18 On terms of RAS, itself, I'm very
19 comfortable with that because when we design the
20 RAS scheme, at least for this application, we had
21 a fully functioning redundant system. In other
22 words, you have two sets of everything in addition
23 to the operators being of the third measure.

24 In other words, if we have an emergency,
25 i.e., we lost one or two lines south of the power

1 plant, then we cannot accept all the power that's
2 produced by that plant.

3 Immediately we are -- first of all, we
4 are monitoring the flows at all time, and we have
5 two out of three decision, that's what we call it.
6 In other words, we know if that signal is false or
7 real.

8 And if it is real then signals go to the
9 plant. The plant start immediately ramping down.
10 And if we don't see any reduction in the flow,
11 then we have an automatic action that will trip
12 the plant.

13 Are we better off with this scheme than
14 without it? Short of any other commitment, you
15 bet we are. Because nobody stepped up to build
16 any additional line to the area, nobody stepped up
17 to build generation in the area, this was a
18 blessing by itself.

19 And for the short-term decision I think
20 we did, but for the long run, I do not believe RAS
21 is sustainable because it's just you keep taking
22 aspirin for a leg that needs to be amputated.
23 It's just you got to cut that leg someday. And I
24 think we are at that junction, at least for the
25 area that I'm very familiar with.

1 That's no different than some other
2 areas. So it is not a sustainable proposition, in
3 my opinion, and I don't disagree with my friend
4 Eddy, having trained the operators myself, I
5 won't go off onto other companies. You cannot get
6 three operators of the same company behave the
7 same way.

8 So that's why we don't rely absolutely
9 on the human decision. We have automatic failsafe
10 decision for some of these RAS actions.

11 So in several areas in Sacramento I
12 think we are beyond the limitation of the system,
13 as well as human limitation. So I don't think we
14 should rely on RAS as a sustainable long-term
15 choice.

16 I still leave the exception because
17 there are some exceptions that makes pure
18 economic, public policy sense, that it should not
19 be ruled out totally.

20 You know, at the end of a line, you
21 know, in the rural areas, radial system You can
22 basically disrupt the generation instead of
23 building 300 miles of line, but is a perfect
24 application for RAS.

25 Especially, you know, your life doesn't

1 depend on that generator. There are exception to
2 any rules.

3 Anyway, those are some additional
4 comments I had. I'd be glad to answer any
5 questions.

6 COMMISSIONER PERNELL: Yes, one question
7 is if, in this region, we're at the end of the
8 line, then what is the recommendations for us to
9 not just run off the cliff? In other words, is
10 there a recommendation that you can give, or at
11 least your opinion on the next step?

12 MR. SABET: Yes, you know, we are,
13 Western, as I said earlier, we have no load
14 serving obligation, you know, but we have a
15 wholesale obligation that is currently met with
16 wires we have in the air.

17 But yet, our transmission system margin
18 headroom is getting basically depleted, you know.
19 No more excess in there. So what Western has
20 done, we have taken, I'm sure Nancy is going to
21 talk about that, Western has taken an effort in
22 here basically.

23 We went on the street last year, look
24 out basically a programmatic approach towards
25 environmental impact statement, basically look at

1 all option. We didn't want to leave anything out.

2 Since then we have basically -- we are
3 refocusing our choices for the Sacramento area.
4 We are looking at several corridors to look at the
5 building 500 kV or 230 kV line for conversion at a
6 later date to a 500 kV in the event some of these
7 generators didn't materialize.

8 One of the problems I think with the
9 transmission investment, as you know, they are
10 lumpy and bulky, and what happens, you have to
11 build it based on some premise. In order to just
12 build a transmission line to nowhere you have to
13 have some resource on the other end.

14 One of the conflict that we have had,
15 we've seen it with several generators, which one
16 is going to have the chance of survival. Like in
17 the middle of AFC phase. Is it going to be able
18 to secure license. If we know that up front, we
19 can come into the transmission. But since we
20 don't know, we just are constantly behind the ball
21 on this thing.

22 And the other problem with the
23 transmission, unfortunately is the approach you
24 have in this state, transmission planning is a
25 long evolutionary process. Western has been very

1 successful in building transmission line. I was
2 very much involved in 500 kV actually when I left
3 the Commission I started that project when I went
4 to Western back in 1980.

5 You're dealing with the landowners and
6 their concerns. One of the success story for
7 Western has been we go reach out those landowners
8 at the beginning of the process. Whereas the AFC
9 right now, it just kind of come in incrementally,
10 as the issues become known in the newspaper. We
11 don't reach.

12 And transmission line even is more
13 difficult because you have to be chartered with
14 building the line, have the financing before you
15 go disturb the landowner for getting permit for
16 legal description of their land, surveying the
17 land, and surveying the centerline.

18 That is the problem you're facing,
19 because we don't have the project sponsor, but yet
20 Western, because of the severity of the situation,
21 we are taking a step and we are looking at
22 transmission option. Those that actually going to
23 make a difference, because we have studied them to
24 death, per my slide that I showed earlier.

25 So we are doing that and we are willing

1 to take anybody's money to do it.

2 PRESIDING MEMBER LAURIE: Well, that
3 raises the issue, and I'm going to ask Jim Filippi
4 to give some thoughts about this. I'm also
5 interested hearing from our Calpine representative
6 on it, but a few years ago subsequent to dereg the
7 Energy Commission was told literally, quote, "the
8 market will do the planning."

9 MR. SABET: I haven't met him yet.

10 (Laughter.)

11 COMMISSIONER PERNELL: Neither have we.

12 (Laughter.)

13 PRESIDING MEMBER LAURIE: I respectfully
14 disagree with that. And my background is in the
15 private development business. You don't have to
16 dictate where merchant plants are going to go.
17 But, you can think about where they're most likely
18 to go, and you can examine the criteria and
19 develop policies that will make it easier to
20 provide natural gas capability and water
21 capability and transmission capability rather than
22 approaching it on an application-by-application
23 basis.

24 And I'm really interested in getting
25 developer input on that question, whether the

1 developers are of the view that the system will
2 work out as they go through a case-by-case basis,
3 or they would like to see some overall thinking
4 about the issue from a statewide or regional
5 basis.

6 MR. SABET: One issue I was going to
7 suggest, about 20 or so years ago when I served in
8 here, I testified on some of the Geysers Unit on
9 behalf of this Commission. At that time the
10 Commission basically had a ceiling established for
11 the total generation be developed in the Geysers
12 area.

13 Why not dust that off and look at it in
14 line of what you were saying. Same approach.
15 This general area, this is the total ceiling that
16 the land, gas pipeline, and the water can sustain.

17 Now, what are you, the transmission
18 owner, can do to make that happen. Because the
19 generation developers, I think they are coming in
20 the right places. Look at you own map. They are
21 locating in exactly the same kind of areas that
22 are sustainable. They can obtain the permits;
23 they can obtain the gas -- because they're out of
24 pocket. They are doing the right thing. The
25 missing step is the next one, I think. And if we

1 can help out in that area, by all means.

2 COMMISSIONER PERNELL: Let me add to
3 that, because I'm not totally in agreement with
4 the market shall dictate where these plants go,
5 and let me give you an example.

6 If we begin to look at the Bay Area,
7 Pittsburg area where there's a lot of plants being
8 either built or planned, then we begin to run into
9 some air quality, health issues, environmental
10 justice issues. So we can't just allow, in my
11 opinion, the market to dictate where these
12 facilities go. Because then you'll get a high
13 concentration.

14 Most of the resources are located in the
15 populated areas where there's natural gas lines,
16 water or even transmission lines.

17 So, if we just kind of step back and say
18 we can basically figure out where it's cheaper to
19 build these, just like the generators can, then,
20 sure, we can point to that area, but what does
21 that do for the people that are living in and
22 around those facilities.

23 So I think it's a dual approach, and one
24 is on the one hand we've got to be sensitive to
25 the area, and then on the other hand we've got to

1 be sensitive to the generators in terms of cost
2 factors and resources and et cetera.

3 So I don't think it's either one or the
4 other. I just think it's a dual approach.

5 MR. SABET: Agreed. It's not an exact
6 science. That's what public policy is all about.
7 A balancing act. Thank you.

8 PRESIDING MEMBER LAURIE: Mr. Filippi.

9 MR. BUELL: We have Nancy Werdel also
10 from --

11 PRESIDING MEMBER LAURIE: Welcome,
12 Nancy.

13 MS. WERDEL: Hi. Did you want him to
14 respond to your questions first?

15 PRESIDING MEMBER LAURIE: Jim, if you
16 wanted to, sure.

17 MS. WERDEL: I'm Nancy Werdel, I'm the
18 Environmental Manager at the Sierra Nevada Region
19 of Western Area Power Administration.

20 And I'm here to talk to you about two
21 things. First of all, the voltage support EIS
22 that we're undertaking, as Morteza kind of talked
23 about, --

24 PRESIDING MEMBER LAURIE: Can you tell
25 me again what your position is?

1 MS. WERDEL: I'm the Environmental
2 Manager for Western.

3 PRESIDING MEMBER LAURIE: Thank you.

4 MS. WERDEL: And the second thing I'd
5 like to talk about is just general, some of the
6 environmental constraints with transmission line
7 building.

8 So the first thing I'd like to talk
9 about is Morteza talked about some of our issues
10 with the voltage in the Sacramento area, and some
11 of the things that we're doing.

12 We have started to do an EIS for voltage
13 support in the area, and that includes we've got a
14 lot of different ways that we can do that. And
15 including demand side management, that we're going
16 to address -- these are things that we are going
17 to address in the EIS, demand side management,
18 alternative solar type things, as well as
19 transmission line upgrades and additional
20 transmission lines.

21 We started this EIS about a year ago in
22 formulating it and --

23 PRESIDING MEMBER LAURIE: Who does that
24 get filed with?

25 MS. WERDEL: It's with the Department of

1 Energy. It's a federal EIS. And at this point in
2 time there are no state entities, so it's just an
3 EIS.

4 And that process goes back, it gets
5 noticed in the Federal Register, and it goes
6 through a federal process. And we do send
7 information to the State Clearinghouse, as well,
8 on those, so they're aware of what we're doing.

9 So, some of the alternatives that we're
10 going to look at for the transmission line are
11 upgrading existing transmission lines and some new
12 200 or 230, to be upgraded later maybe to possibly
13 500 kV lines.

14 We're going to be holding a workshop to
15 discuss this on March 22nd in the afternoon at
16 1:00 at Western's facilities out in Folsom.

17 And the approach that we are taking on
18 this EIS is a programmatic EIS. And what that is
19 going to do for us is to allow us to take and look
20 at it from a short term, in the next five years,
21 what are some specific things that we need to do
22 to make some changes in reliability, solve some
23 reliability issues here in Sacramento for short
24 term.

25 And then it also lays the foundation for

1 long-term projects. If we determine that we do
2 need to have, build a 500 kV line, at some point
3 in time, it will allow us to do that quicker. We
4 figure it will save about a year off the EIS
5 process down the line.

6 So, I was going to ask Morteza if he had
7 anything he wanted to add about the alternatives.

8 COMMISSIONER PERNELL: Can I ask you
9 about the normal time line? Is that like a two-
10 year process?

11 MS. WERDEL: Generally it takes about
12 two years to do a full EIS.

13 PRESIDING MEMBER LAURIE: And when you
14 say two years to do the EIS, does that mean two
15 years to get the authority to construct, or that's
16 just the EIS portion, and --

17 MS. WERDEL: That's just the EIS
18 portion. Generally what you do in the federal
19 realm is you request in, you make some assumptions
20 about how much money you need, and you get it in
21 the federal budgeting process before you finish
22 your EIS.

23 So that when you reach your record of
24 decision you have the funds available to build.
25 But you may have to go back and ask for additional

1 funds based on what your project, the outcome of
2 the EIS is.

3 So, we're looking at, we have in our
4 budget some funds to build a project, and we're
5 hoping to get something done by 2005.

6 COMMISSIONER PERNELL: And this is in
7 the FERC budget that goes to Congress?

8 MS. WERDEL: It's not in FERC's, it's in
9 Western's budget.

10 COMMISSIONER PERNELL: Oh, it's in
11 WAPA's budget?

12 MS. WERDEL: The Department of Energy,
13 it's in WAPA's budget.

14 COMMISSIONER PERNELL: Okay.

15 MS. WERDEL: It's different than FERC.
16 So, that's kind of basically what we're doing.
17 We're hoping that it will provide us with enough
18 information that we can reduce the amount of time
19 to build additional projects, and also give us a
20 short-term solution.

21 So I was going to say, Morteza, do you
22 want to talk about some of the different
23 alternatives that we're looking at, some specific
24 ones?

25 MR. SABET: The group I referred to

1 earlier this morning, you know, Sacramento Area
2 Transmission Planning Group, we have looked at an
3 array of 230 transmission, as well as 500 kV
4 transmissions, that we know that they do help the
5 area, basically load growth, i.e., the voltage.

6 But the problem with the 230 system is
7 we are at a special point right now that by the
8 time we get it built, we would be in the same
9 situation we are today.

10 And the other complexity of that is it
11 all depends, you know, we have like now about four
12 or five generators hovering around our system.
13 What would be the best permutation of the
14 possibilities if one or two of these generators
15 are in, what would be the optimal transmission to
16 build.

17 To do two things. One is if they are
18 not built, and second, if they are built. And
19 that is a very nice tightrope to walk on. But we
20 are doing the best we can. And the beauty of it
21 is because we know where the short fuses are. And
22 we know where we can and we cannot build lines.

23 Because one of the corridors that, you
24 know, it is feasible going to the downtown
25 Sacramento through Folsom, we know that it is very

1 difficult to build those. But we are looking at
2 reconductoring those lines, for instance, to give
3 us the temporary relief. Those are all included
4 in this global EIS.

5 But in addition to that we have lines
6 that if you travel to Sacramento Airport there is
7 a 500 kV line goes there. One of our stations
8 near the airport, you know, building a 500 kV
9 connection to that system to have a strong source
10 on the east side of the valley. That has proven
11 some promise, shown some promise.

12 So we haven't got the project
13 sponsorship yet to spend the money to do anything,
14 but we have cleared the way, what are the feasible
15 corridors that could be built in case the
16 coalition could be pulled in. And this is with
17 the recognition of what we are hearing from the
18 generators as well as other area utilities.

19 In other words, we are looking at it in
20 a global sense. What if, let's say Calpine,
21 Florida Power, all the developers around the area
22 are willing to pay to fund this thing,
23 incrementally, one utility or one entity do it, in
24 addition to SMUD and other utilities in the area.

25 We have the general buy in on that

1 concept from our customers and the generators,
2 that's the direction we're going. So, because of
3 the severity of the situation we are saying it is
4 good at least to screen out these right-of-ways,
5 make sure they're buildable before we get the
6 coalition put together for funding.

7 MR. LIM: Being from SMUD, we are very
8 aware of this problem, and of course we've been
9 studying it to death for the last few years, but
10 one of the things that I think would be in front
11 of this Commission is what are the alternatives,
12 what's the new generation.

13 And again, if you're going back to that
14 energy park concept, Rancho Seco, if you locate a
15 generation plant there, you know, our minds are
16 generally importing power, because you put enough
17 generation in this metropolitan area, start
18 exporting some power, or you get a zero exchange.
19 And again, that frees up transmission for other
20 uses.

21 So that's an alternative rather than
22 running 500 kV right-of-ways. And I'm not turning
23 down any wire. I mean as an operator we always
24 like more wire in the air and more facilities to
25 operate. But this is an alternative that could be

1 placed in front of you to give guidance to these
2 projects, to locate where there's no transmission
3 upgrades that are necessary, no remedial action
4 schemes, no special operating procedures are
5 necessary, and we can accept some fairly large
6 amounts of generation. And it helps the
7 Sacramento Valley area by voltage support and the
8 load growth continue in the area like this.

9 MR. SABET: No disagreement there. We
10 always have stated publicly and otherwise,
11 generator close to the load is the best solution.
12 But can you build it, Rancho Seco obviously is a
13 good choice.

14 PRESIDING MEMBER LAURIE: Our friend
15 from Calpine has to leave in about three minutes.
16 Can I get your attention for just a couple minutes
17 before you go? Thank you, Nancy.

18 Jack, what's your last name again,
19 please?

20 MR. PIGOTT: Pigott, P-i-g-o-t-t.

21 PRESIDING MEMBER LAURIE: Thank you. As
22 you folks have your meetings and you plan for your
23 two- and five- and ten-year projects down the
24 road, a couple questions. One, does Calpine
25 consider transmission a potential barrier to your

1 plans? And there's a whole bunch of other
2 criteria, but just looking at transmission, do you
3 consider that a potential barrier to your plans?

4 And, two, is there anything that the
5 state or any other entity can do for purposes of
6 coordinating that would be a benefit to generators
7 from Calpine's perspective?

8 MR. PIGOTT: Transmission constraints
9 are both opportunities and barriers. You know, to
10 the extent that the ISO has zones and they're
11 going to make other zones, smaller zones, you
12 always want to be inside the zone.

13 And so to the extent that you have the
14 facility that's inside the zone, you have an
15 advantage, you're going to operate more, you may
16 get a higher price than if you were outside of it
17 and had to cross the barrier.

18 But to wide open competition, I mean
19 lower prices for the end-use customer, it's
20 advantageous to not have those barriers, and to
21 have more transmission.

22 So, from -- I mean our opinion, because
23 the plants that we're building are new, they're
24 very efficient and tend to be lower cost than some
25 of the competitors, we like the idea of having

1 lots of transmission, lots of ability to get the
2 power to customers.

3 As far as whether the state can do
4 things to help plan for it, I think we agree with
5 what FERC has been espousing, that you really need
6 a good transmission highway to have a competitive
7 market.

8 And so we --

9 PRESIDING MEMBER LAURIE: And how do you
10 accomplish that?

11 MR. PIGOTT: Well, I think that a lot of
12 the planners around here know where the
13 constraints are and what paths could really be
14 upgraded to approve things. And so I think
15 perhaps being proactive in that respect.

16 PRESIDING MEMBER LAURIE: From Calpine's
17 perspective, when you talk about your future
18 plans, and then you raise the issue of
19 transmission, do red flags go up, or do you folks
20 have a sense of comfort that the capacity will be
21 where you want it when you want it?

22 MR. PIGOTT: If not exactly when we want
23 it, we think it will be there eventually. I
24 believe three of the plants that are either under
25 construction -- I think three of the plants that

1 are under construction are all going to be subject
2 to RAS schemes.

3 And we don't like that, because that
4 means that under certain conditions we're going to
5 have to ramp down. And that's not something that
6 we want to do. But we view that as temporary.
7 And, you know, we know that the state needs the
8 power and we don't think that these conditions
9 will remain for long because there's a mutual goal
10 of getting that power to the load.

11 PRESIDING MEMBER LAURIE: Thank you.

12 COMMISSIONER PERNELL: No questions,
13 just appreciate you being here.

14 MR. PIGOTT: Okay, thanks.

15 PRESIDING MEMBER LAURIE: Thank you,
16 sir. Mr. Filippi, good afternoon.

17 MR. FILIPPI: Good afternoon.

18 PRESIDING MEMBER LAURIE: Nancy, were
19 you done?

20 MS. WERDEL: No.

21 PRESIDING MEMBER LAURIE: No, well, get
22 back up here --

23 (Laughter.)

24 PRESIDING MEMBER LAURIE: -- what's the
25 matter with you?

1 (Laughter.)

2 PRESIDING MEMBER LAURIE: Sorry.

3 MS. WERDEL: I'll try to be brief here.

4 PRESIDING MEMBER LAURIE: No, no, that's
5 all right.

6 MS. WERDEL: I wanted to just talk a
7 little bit about some of the environmental
8 constraints relative to building transmission
9 lines, and what are some of the constraints that
10 we're working under for that.

11 As you are well aware, there are lots of
12 constraints relative to the siting process, and
13 those are similar to what you have with the
14 transmission lines with one exception, is that for
15 a siting you're very localized.

16 You have a site and there are certain
17 things that are on that site that have to be
18 mitigated, and you've got your air problems and
19 water problems, et cetera.

20 For a transmission line you have a lot
21 different problems, in that you have, it could be
22 many many miles of lines that cross many many
23 types of ecosystems. And then you have also to
24 think about some of the way you get there, what
25 are the alternatives from getting from point A to

1 point B. And which is the most environmentally
2 preferable way to get there.

3 And sometimes that may be a longer
4 transmission line than you wanted, or it could be
5 shorter. But, there are certain things that we
6 look at, and I'm going to go back to your highway
7 50 analogy.

8 Some of the things that you can do, you
9 know, are resurface the road, build more onramps,
10 those are small constraints. But if you're going
11 to go from a two-lane highway to a big four-lane
12 divided highway, you're going to have a heck of a
13 time trying to do that.

14 And right now, from all I -- in my
15 experience from working with Morteza and such, is
16 that there's not enough places where we can put
17 that four-lane divided highway that will help us
18 to solve the problem.

19 And we've gotten into -- and you're well
20 aware of the NIMBY syndrome, nobody wants to have
21 the power plant in their backyard, and they don't
22 want to have a transmission line in their
23 backyard, either.

24 And now we're starting to get into the
25 BANANA syndrome which is build absolutely nothing

1 anywhere near anyone.

2 (Laughter.)

3 MS. WERDEL: And it's getting worse.

4 And I think that the longer that we wait, the more
5 constrained we're going to be. Because the
6 environmental laws are getting more stringent.
7 There's more concerns about habitats and, you
8 know, the habitats are shrinking. So they are
9 less likely to allow things to go on with the
10 habitats.

11 PRESIDING MEMBER LAURIE: If you look at
12 the current transmission system that's in place
13 today, and you look at projected need for growth
14 in that system, do you have any thought about the
15 extent to which upgrades can be made within the
16 current rights-of-way, that is within the current
17 two-lane system, as opposed to actually needing
18 the four-lane system, and having to go out and
19 buying those extra two lanes somewhere, and having
20 to do the broader environmental analysis?

21 So, if you're just -- I have no idea how
22 the engineering on these wires works, but if
23 you're going to upgrade the wires, or you're going
24 to just put an extra wire on, that's different
25 than doubling the size of the line and having to

1 buy additional rights-of-way.

2 In one case I would imagine you would
3 have to do a much broader environmental analysis
4 than in the other.

5 MS. WERDEL: That's true somewhat. If
6 you're going to be upgrading a current line to a
7 much bigger line, if you're going from an existing
8 230 there's an established right-of-way for that
9 230. If you're going to upgrade it to a 500,
10 you're going to have much greater right-of-way.
11 And you're going to have to take into
12 consideration all the impacts to that bigger
13 right-of-way.

14 PRESIDING MEMBER LAURIE: Does anybody
15 know the extent to which the PTOs have sufficient
16 rights-of-way today for necessary upgrades for the
17 next 20 or 30 years? Can most of the enhancements
18 be done within the current rights-of-way, do we
19 know?

20 MR. SABET: Let me see if I can help
21 out. The old days, I think PG&E, no, I'm not
22 going to speak for them, they used to buy rights-
23 of-ways, you know, ahead of the need and put them
24 aside, you know. That was a real planning time,
25 not just in time planning.

1 They used to have that and they still
2 own some of those rights-of-way, i.e., before we
3 got started building the third Pacific intertie,
4 which is considered to be, PG&E before that,
5 actually ten years before that they had a right-
6 of-way that ran in the foothills to Folsom, down
7 to Tessler. Some of that right-of-way, last I
8 talked to some of the key people, I know they
9 still have it.

10 But the reason that line is not yet
11 built is several. One of them was near Folsom
12 there was conflicts there.

13 PRESIDING MEMBER LAURIE: They're also
14 going to build a highway going from North Folsom
15 to South Folsom, --

16 MR. SABET: But Rancho Seco to Valota,
17 which is the PG&E line, it is actually constructed
18 to be converted to 500 kV, that was part of that.

19 For the COTV line we used the existing
20 230 stretch, we converted the same stretch to 500
21 kV. In other words quadrupled its capability.

22 But the reconductoring alone, by itself,
23 is the -- it doesn't do anything, because it does
24 not change the system characteristic. It doesn't
25 change the flow distribution. What it does, it

1 tells you the congestion management in the near
2 term, i.e., if we have conductors that are bigger
3 south of the Sutter Power Plant today, the
4 frequency and duration of those ramp down would be
5 lower.

6 But in terms of system performance
7 overall, we are not changing anything, because the
8 system character does not change.

9 So each one of those have some life;
10 reconductoring has a much shorter life. But if
11 you upgrade to higher voltage that will triple the
12 life.

13 But unfortunately the line that we
14 operated, that was the time that we designed
15 things by slide rule. All the rest of the lines
16 are designed by computer, so they don't have much
17 margin in them. So we cannot do the same with the
18 remaining circuits, unfortunately.

19 MS. WERDEL: And some of the issues now
20 with urban sprawl are limiting, you know, the
21 infrastructure within the cities. And not being
22 able to upgrade to more capacity and lines because
23 of being inside the urban area where you've got
24 lots of homes or parks or whatever you have.
25 That's a significant constraint, as well, trying

1 to get those environmental concerns taken care of,
2 as well.

3 And it almost is prohibitive for our new
4 transmission lines where you've got environmental
5 concerns in the urban areas.

6 PRESIDING MEMBER LAURIE: Does somebody
7 else want to come in on that question?

8 MR. YEUNG: Yes, Commissioner, Manho
9 Yeung from Pacific Gas and Electric Company. Your
10 questions on do we have for PG&E anyway, is there
11 adequate existing rights-of-way for the next 20,
12 25 years. I think the general answer from us is
13 no.

14 PRESIDING MEMBER LAURIE: No?

15 MR. YEUNG: No, we don't. We have seven
16 probably that we have acquire throughout the
17 years, and especially 20, 30 years ago, in
18 association with proposed power plants that we had
19 at that time.

20 But on the other hand, those land and
21 acquisition, they were made bit and pieces. We
22 don't have all the wires in place for any
23 substantial transmission upgrades in our system.

24 They are, for example, on some recent
25 230 kV transmission projects, we actually have to

1 acquire brand new rights to complete those
2 projects.

3 They are facilities that may be
4 involved, that are associated with the COT, the
5 third 500 kV project, but again they are in a very
6 limited basis.

7 COMMISSIONER PERNELL: Let me ask, is
8 there any utility or any knowledge of anyone who's
9 doing a 20-year plan that includes acquiring
10 right-of-ways for additional transmission lines?

11 MR. SABET: Yes, back in the time that
12 we were doing COT, there was a very comprehensive
13 effort by basically Western Utility Corridor,
14 which included all the federal agencies, all the
15 local and state agencies, actually this Commission
16 should have a copy of it, I know, I have one in
17 the office.

18 It basically is under the title
19 Western's Corridor study. That basically looked
20 at possible routes that could be built for
21 transmission, intra- and inter-state, as well as,
22 you know, local communities. And we went to
23 extensive effort. Sierra Pacific led that effort.
24 And it wasn't too long ago. I think it was '95,
25 or '93, if I remember.

1 So that one's looking out 20, 30 years
2 down the road.

3 COMMISSIONER PERNELL: And it has -- and
4 I haven't seen the report, I'd be interested in if
5 you have an extra copy or --

6 MR. SABET: I can give you the
7 reference. We have one copy in the office. I can
8 do that, be glad to do that.

9 COMMISSIONER PERNELL: And so that was
10 looking at an additional corridor, and then --
11 Susan --

12 MS. WERDEL: Nancy.

13 COMMISSIONER PERNELL: Nancy. Nancy,
14 what I'm hearing you saying is it is very
15 difficult to permit an additional corridor because
16 of either land use restraints or environmental
17 restraints, endangered species and all of those
18 other issues that run from state, federal and et
19 cetera.

20 Is there an organization or a commission
21 that actually looks at, so that you wouldn't have
22 to do the leap-frog to every jurisdiction, but
23 looks at the overall grid planning. And I'm
24 assuming maybe this is something that FERC should
25 be doing, if they're, you know, the kind of

1 federal planning agency.

2 Is there any organization that looks at
3 that and says, okay, we got to look at the Fish
4 and Wildlife, all of these various agencies to get
5 this permit. And in terms of an endangered
6 species habitat, maybe incidental take permit, and
7 just till you get it built. Because once you get
8 the foundation and the structure, then the habitat
9 can go back to the way it was.

10 So is there anyone or any agency that
11 actually looks at the overall grid planning for
12 the right-of-way for the grid?

13 MS. WERDEL: I'm not sure that there is.
14 I have not heard of anything. But it could be
15 something that could be addressed by the WSCC's
16 environmental work group. Bob Therkelsen is on
17 that work group, and that might be something that
18 they could --

19 PRESIDING MEMBER LAURIE: Mr. Miller,
20 did you have a response to that?

21 MR. MILLER: I think that's a gap in our
22 planning process right now. We really don't have
23 a long-term plan. In fact, when deregulation
24 started we actually shortened the planning
25 horizon, we went from standard ten-year planning

1 horizon down to five years, which created its own
2 problems. Because it takes six years to permit
3 some transmission lines. So you aren't even
4 looking far enough out to when you actually get a
5 facility in place.

6 Now we're going back out to ten years,
7 and looking at ten years, again, but they're just
8 starting to do those plans, and those are so
9 speculative at this point, given the uncertainty
10 of where the generation's going to be located,
11 that it's really hard to get committed enough to
12 the point where you can say, let's go buy some
13 land and let's start working with some federal
14 agencies or whatever.

15 So, there really isn't anybody in the
16 lead on trying to identify new corridors or to
17 preserve them for future transmission use.

18 PRESIDING MEMBER LAURIE: Is it -- I
19 don't know if you -- did Dave leave? Pat Fleming,
20 did -- he did. Do you know anything about, is it
21 San Diego that's trying to put in the line down in
22 Hemmet?

23 MR. MILLER: The Valley Rainbow line?
24 Yes.

25 PRESIDING MEMBER LAURIE: Do you know

1 about the status of all that? Pat, do you know?

2 MS. FLEMING: We anticipate filing for a
3 certificate of public convenience and necessity.
4 We're hoping next week, or at least in the next
5 two weeks. And we put together a proponent's
6 environmental assessment, and I would say that
7 everything that Nancy has stated about
8 environmental concerns fits. It's called the
9 Valley Rainbow Interconnect. And it goes from
10 Edison's Valley substation to a new substation
11 that San Diego will build called Rainbow, just
12 south of the Riverside County line, 500 kV.

13 COMMISSIONER PERNELL: How long is that?

14 MS. FLEMING: Depends, because again, I
15 will agree with Nancy, it's taking some jogs. If
16 we go with what I think the proposed line will be,
17 but it --

18 PRESIDING MEMBER LAURIE: There's some
19 public opposition issues, right?

20 MS. FLEMING: Pardon me?

21 PRESIDING MEMBER LAURIE: There's some
22 public opposition issues?

23 MS. FLEMING: Yes, there is, and habitat
24 issues, and there's a lot of development in the
25 area. But it's about 35 miles; as the crow flies

1 it's probably 25 miles.

2 PRESIDING MEMBER LAURIE: Thank you very
3 much.

4 MS. WERDEL: That was all I had then.
5 If anybody has any other questions?

6 PRESIDING MEMBER LAURIE: Very helpful,
7 thank you.

8 COMMISSIONER PERNELL: Thank you.

9 PRESIDING MEMBER LAURIE: Good
10 afternoon, Jim.

11 MR. FILIPPI: Hi, good afternoon. I'm
12 Jim Filippi of PG&E National Energy Group. I'm
13 the Manager of Transmission Services for the
14 Western Region and in my spare time lately I'm
15 Chairman of the WSCC's Planning Coordination
16 Committee.

17 COMMISSIONER PERNELL: You mean you have
18 spare time?

19 (Laughter.)

20 MR. FILIPPI: I was being facetious
21 there. I really struggle to fit in that second
22 job. And I appreciate the opportunity to come
23 here today and talk about a couple of my favorite
24 subjects, transmission line siting and
25 transmission constraints for generation.

1 I did prepare some slides on the
2 subjects earlier this morning, so I'll just try to
3 skim through those till we get to congestion.

4 Yes, interconnection disputes are
5 barriers. They consume the developers' time and
6 resources; and costs mount and competitors get
7 ahead as you try to work through these things.

8 I think one thing that would help here
9 is to have a uniform interconnection process
10 administered by the California-ISO. One that
11 would recognize that generation brings benefits as
12 well as impacts. And work that into the equation
13 when you're considering transmission costs and
14 what the generation --

15 PRESIDING MEMBER LAURIE: Why is there
16 not a uniform interconnection process? Because do
17 you go by utility to utility?

18 MR. MILLER: At the time being until the
19 ISO's process is established. There are different
20 processes filed in each transmission owner tariff.
21 In effect, the processes that are filed at FERC
22 are really pretty much identical, but the
23 different transmission owners sort of adopted
24 differences in their processes.

25 MR. FILIPPI: Interpretation, yeah.

1 MR. MILLER: Yeah, without having it
2 formally codified.

3 MR. FILIPPI: And one of the things that
4 should not be in the process is to hold the
5 generator responsible for expanding the
6 operational limits of the existing system.

7 I think the generator should -- its
8 obligation should be to maintain the reliability
9 of the system, maintain the operability of the
10 system, and not be stuck with funding any
11 improvements to that. Because it's hard enough
12 just to fund the interconnection and the plant.

13 And I think one thing that would help
14 speed up the process is to have the ISO basically
15 resolve disputes between the transmission owner
16 and the interconnector, the generator, over what
17 the interconnection requirements are.

18 COMMISSIONER PERNELL: Who does that
19 now? You just sit at the table until you come to
20 a resolution?

21 MR. FILIPPI: Well, yes, basically, it's
22 you sit at the table till you come to a
23 resolution. We try to enlist the support of the
24 ISO, and any other popular support you can. But
25 it takes a long struggle, without there being a

1 clear authority that is in charge for resolving
2 the dispute.

3 Ultimately I guess we could go to take a
4 dispute to FERC for a long litigation, but that's
5 not going to achieve our objectives.

6 As far as studies go, the question is 60
7 days okay, from my perspective 60 days would be
8 great. Detailed facility studies have taken,
9 often we're told, you know, that utilities would
10 have up to 180 days to do those.

11 And often it goes longer than that. So
12 that wouldn't be a problem if the timelines were
13 met.

14 As was pointed out for very small units,
15 for instance a small unit that's interconnecting
16 at a substation and its output is less than the
17 load that's there at that substation, I don't see
18 why, you know, more than a week or something is
19 necessary to handle that one.

20 As far as speeding up the process, I
21 think would be one thing that would help is if it
22 was the ISO might be responsible for handling the
23 technical aspects of determining, you know, what
24 is necessary for reliable interconnection. It
25 slows things up if that gets litigated also at the

1 Energy Commission, I believe. And so if --

2 PRESIDING MEMBER LAURIE: And by
3 litigating, you mean independent review by staff?

4 MR. FILIPPI: No, I guess what I'm
5 meaning is having intervenors come in and make all
6 sorts of challenges and claims, and having to
7 mount a defense. If the ISO was the forum for
8 that, with their technical expertise, I think --
9 and then at the Energy Commission, it was just a
10 matter of the ISO's presenting its decision, I
11 think things might go quicker and smoother.

12 PRESIDING MEMBER LAURIE: Mr. Buell, as
13 a Project Manager, to what extent does staff, in
14 their PSAs and FSAs, do anything on the issue of
15 interconnection beyond what ISO reports?

16 MR. BUELL: It's my understanding that
17 staff is not doing anything in addition to what
18 the ISO is doing. I think the question that was
19 raised here is that the process allows for
20 intervenors to challenge what may have been done
21 by the ISO in our process, and we may end up
22 litigating that in front of a Committee.

23 PRESIDING MEMBER LAURIE: Right, but
24 because ISO is a secret fraternal organization,
25 the public's not involved in their decision

1 making, so you avoid all that?

2 (Laughter.)

3 MR. BUELL: Yes.

4 PRESIDING MEMBER LAURIE: Got it.

5 MR. FILIPPI: And, yes, queuing does
6 create impediments, not that you can do away with
7 queuing, but some of the difficulties are that
8 earlier project, your study may not be valid, if a
9 project that's earlier in the queue goes away, and
10 you're requirements, your perceived
11 interconnection requirements may be very onerous,
12 either from a permitting aspect or from just the
13 financial costs.

14 And as I call them, vapor ware projects.
15 You may have some vapor ware projects holding a
16 place in the queue for awhile, and that then
17 impedes the development of the succeeding projects
18 until those get out of the queue.

19 And --

20 PRESIDING MEMBER LAURIE: I don't know
21 what that is. What's vapor ware projects?

22 MR. FILIPPI: It's hard to know, but I'd
23 say one --

24 COMMISSIONER PERNELL: Like a spot fill.

25 MR. FILIPPI: If one thing that needs to

1 be done, is there needs to be clear milestones
2 that allow, require a project in the queue to
3 proceed in a timely basis. And should not hold a
4 place in the queue without reasonable progress.

5 COMMISSIONER PERNELL: In terms of the
6 financial question about who's in what position in
7 the queue, what about the suggestion of everybody
8 in the queue pays the same amount?

9 Are you -- is that anything you would
10 entertain?

11 MR. FILIPPI: Well, I'd say within a
12 certain timeframe I think that would be
13 reasonable. But on the other hand, if I had put
14 in a large effort to -- and I'll get into more of
15 this later, but if I put in a large effort to
16 identify a good place to interconnect, and I put
17 in my request and it is a great place to
18 interconnect, and then four others come after me,
19 and then it becomes a lousy place to interconnect
20 with a lot of cost, I would feel a certain amount
21 of resentment to a system that does that.

22 PRESIDING MEMBER LAURIE: Well, I'm
23 interested in how that's currently treated. How
24 that would be treated in an organized local
25 government development process is if you're first

1 in the queue and you're bringing in 100-unit
2 subdivision, but there's 400-unit subdivisions
3 behind you, they would say, okay, Mr. Filippi, you
4 go out and you build a 500-unit highway.

5 And because you want to go now you have
6 to make the capital investment. But, you know, as
7 soon as these other folks build their houses,
8 you're going to get repaid for everything over
9 your share.

10 Does that happen today? So, if you're
11 first in the queue, and even if you have folks
12 behind you, and proper planning says, well, you
13 should over-build, is there a mechanism so that
14 you can get paid back for all your capital costs
15 plus interest incurred beyond what you're using?

16 MR. FILIPPI: No, I believe there's no
17 such mechanism. I have tried to negotiate such
18 terms, and was refused basically. That the
19 utilities were not interested in accounting for
20 who's coming later.

21 This is not so much a situation where
22 there's people stacked up right behind us, but
23 we're willing to move into an area, there's
24 infrastructure needed, it's expensive, and we
25 say -- but it's lumpy, there would be more

1 capacity than we need. And we say we want to be
2 compensated if others come behind. And there
3 hasn't been a lot of interest in doing that. No.

4 PRESIDING MEMBER LAURIE: Do they know
5 what a reimbursement agreement is? These things
6 exist.

7 MR. FILIPPI: Yes.

8 PRESIDING MEMBER LAURIE: Okay.

9 MR. FILIPPI: I guess some of the
10 questions that were asked in the pre-workshop
11 materials were, you know, how do we decide between
12 whether there should be transmission serving an
13 area or whether there should be generation.

14 Does there need to be some kind of a
15 planning process that decides that, or a
16 regulatory process. And I guess my first crack at
17 it is I think there could be a market mechanism
18 that would work and let the market decide.

19 For example, one of the things that
20 could be done is -- I think we're specifically
21 talking about transmission is needed in an area,
22 and would generation be an alternative. I don't
23 think people are really too concerned about
24 generation wants to go in an area, and should
25 there be transmission as an alternative.

1 PRESIDING MEMBER LAURIE: Well, let me
2 correct you, because you're right, they're not
3 interested in replacing generation with
4 transmission, but they're interested in replacing
5 big generation with multiple types of alternative
6 generation.

7 And we have to address those issues more
8 and more often, more and more specifically in CEQA
9 environmental analyses. And so it is becoming an
10 issue.

11 MR. FILIPPI: Okay, my thoughts aren't
12 sorted out on that one. I'll have to think about
13 it some more. But I will address the one about
14 transmission and generation as an alternative to
15 transmission.

16 What you can do, and what I have, at
17 times, asked for, is that the transmission
18 entities ought to have a transmission plan. I
19 mean ultimately they're responsible for making
20 sure the lights stay on, and they need to have the
21 transmission that goes out to whatever resources
22 they can access to do that.

23 So, in order to fulfill the
24 responsibility and meet reliability criteria, they
25 need to have a transmission plan. And then when

1 they are about ready to embark on a transmission
2 project, they can have a solicitation and ask, are
3 there nontransmission alternatives that are
4 willing to -- that can satisfy this transmission
5 need.

6 Can you, for instance, if a major
7 transmission line is needed into the Sacramento
8 area, and the time has come, there's only a few
9 years left, and so they have to get started on
10 this project, they can put out a solicitation, are
11 there nontransmission alternatives that can
12 satisfy this need. And if there are, then a
13 market mechanism is we are willing to pay a
14 certain amount on the order of magnitude of this
15 transmission line, certainly not the same costs,
16 but something approaching that, to pay the excess
17 development costs of generators, or could be load
18 management, to satisfy this need.

19 And that kind of a mechanism at least
20 can handle the technical aspects of are there
21 other alternatives that make sense compared to
22 just building the transmission line.

23 I think there is a role here for
24 regulators because as Mr. Pernell pointed out,
25 this is then just economics and engineering, and

1 doesn't consider all those environmental and
2 social aspects.

3 So, there needs to be some process there
4 afterwards to assure that what seems to be the
5 economic alternative is also a feasible
6 alternative from the public's perspective.

7 In order to do this the question was do
8 we need a single state siting agency for
9 transmission and generation, and it's not obvious
10 to me that that's essential. Not to say that it
11 wouldn't help, but it just didn't, that need
12 didn't jump right out at me.

13 The question was asked can new
14 generators impact the transmission access for
15 existing generators, and is certainly
16 theoretically possible and it depends on the rules
17 for access.

18 In some areas in other states the
19 existing generators and existing transmission
20 owners own all the transmission access rights.
21 New generators have none, and so it's the new
22 generators then that are at a loss and are
23 scrambling to find out a place where they can
24 connect onto the grid without congestion.

25 But in California I believe today the

1 correct way to describe the situation is that the
2 in-place generators and the new generators largely
3 compete for the available access, and that has
4 good aspects. It encourages economic efficiency,
5 but congestion is not always good. Sometimes it's
6 good, a little is good, but too much is definitely
7 bad.

8 And congestion can keep existing
9 generators from the market, as well, in these
10 situations. But it depends on the response of the
11 transmission owner and the ISO in California. If
12 there's a reactionary response such as congestion
13 is not our problem, it's just an economic issue,
14 it doesn't affect reliability, that's going to
15 have some adverse impacts.

16 There can be congestion, which is very
17 uneconomic, has huge costs to the market and to
18 the ratepayers, higher energy prices, higher RMR
19 costs in local areas, and it can narrow supply
20 margins to the extent that when you do have
21 unforeseen sudden load growth or severe storms,
22 you can get into a reliability crisis.

23 But it's also within the ability of the
24 transmission owners and the ISO to respond
25 proactively to commit to provide new transmission

1 where it would reasonably mitigate the local
2 congestion. That would enhance reliability, would
3 increase the depth of the market, and would reduce
4 the delivered cost of energy.

5 So I think would make a -- would be good
6 for the ISO and the transmission owners to take a
7 more proactive role, and to endeavor to mitigate
8 local area congestion. And don't really let it
9 get out of hand. Take some steps towards having a
10 liquid pool of generation.

11 PRESIDING MEMBER LAURIE: To what extent
12 can you comment, or do you care to comment on the
13 answer to the question in the last slide, that is
14 can congestion act as a barrier? What impact
15 would state ownership of the lines have? And you
16 don't have to speak to it from National Energy
17 Group if you don't want to, but do you have any
18 personal views as to whether or not it would be a
19 substantial benefit in coordinating the system, or
20 not so much. Have you folks thought about it at
21 all? Of course you've thought about it --

22 MR. FILIPPI: No, I don't think we've
23 thought about it too much. I think basically the
24 proof is in the pudding is, I guess, what we're
25 really concerned about is how much congestion

1 there is, how much transmission access and how
2 liquid the rights are to the transmission.

3 And I will get into this in a couple of
4 slides. I am concerned that congestion,
5 uneconomic congestion is not being adequately
6 relieved. And that I think there may be, if that
7 continues, that kind of situation continues, there
8 may be a role for the state in this.

9 Remedial action schemes. I think
10 automatic remedial action schemes are a good
11 solution. They are for infrequent contingencies.
12 This is something where we're talking about
13 something is going to happen for an hour or two
14 every couple of years.

15 There's no reason why you would want to
16 build a transmission line that's out there 8760
17 hours a year for 30 years when you could put in a
18 remedial action scheme that effectively does the
19 same thing for a lot less money.

20 Some have talked about, I think Morteza
21 mentioned he didn't think remedial action schemes
22 were a good long-term solution. I don't view it
23 as far as long-term or short-term, but just as far
24 as how much and what you apply it to.

25 If you apply remedial action schemes to

1 these infrequent situations I don't think there is
2 going to be much problem with that. WSCC has
3 reliability criteria for the remedial action
4 schemes. WSCC has a certification process for
5 remedial action schemes to review with the scheme
6 and make sure that it is not prone to failure.

7 What I think the difficulty may be is
8 that they're over-applied. That you get a
9 proliferation of remedial action schemes all over,
10 and then it's difficult for the transmission
11 operator to keep track of them all, and keep them
12 coordinated so they don't overlap. And, yeah, I
13 think that might be a problem.

14 But remedial action schemes only do so
15 much. There comes a point where if the problem is
16 persistent enough for a long enough time, that you
17 do need some transmission. You'll initially start
18 some congestion, but then that congestion can get
19 very expensive and get out of hand. And
20 ultimately, as it has in Path 15, it affects
21 reliability.

22 And so I think the PTO and the ISO ought
23 to be proactive in relieving that kind of
24 uneconomic congestion, and that new transmission
25 may be warranted.

1 I think that the review of economic
2 congestion should be included in the ISO's annual
3 grid planning process. And that if there is a
4 plausible determination that the congestion costs
5 are uneconomic, that it's more economic to build
6 some transmission, that ought to be done.

7 If it doesn't happen I think perhaps
8 there is a role for the state in funding that kind
9 of infrastructure --

10 PRESIDING MEMBER LAURIE: Can you define
11 uneconomic congestion for me?

12 MR. FILIPPI: I think it's from the
13 ratepayers, you might say cost benefit analysis
14 from the ratepayers perspective.

15 There's been some talk about perhaps the
16 generators can have a role in this, or let the
17 market take care of the congestion. And I see and
18 have experienced some real problems with that.

19 I think it was James Leigh-Kendall
20 mentioned that when new transmission is built and
21 congestion is relieved there are a lot of winners.
22 And that is correct. I believe there are a lot of
23 parties that benefit.

24 And the trick of having a market
25 mechanism is getting all those parties who benefit

1 willing to contribute something to the cost. It
2 doesn't work to say to have many parties benefit,
3 and then you step up to the generator and say,
4 well, you're going to benefit, why don't you pay
5 for this. And again, there is no reimbursement
6 mechanism for the generator, even if the generator
7 was willing to go out and take a risk that would
8 be compensated later, there is no mechanism for
9 doing that today.

10 PRESIDING MEMBER LAURIE: Again, when
11 you look at any other type of development, that
12 process occurs regularly. You form an area of
13 benefit and you determine who the beneficiaries
14 are, and the potential cost of the needed
15 improvements, and you allocate. And everybody --
16 anybody who wants to play has to buy into it.

17 So, that, again, is not a new concept.
18 But it sounds like we're not getting general
19 agreement that those kinds of tools should be
20 utilized.

21 MR. FILIPPI: Right, and there are some
22 difficulties in how you apply it.

23 Actually I think there are many
24 instances where the generator would benefit, but
25 there would be so many beneficiaries that this

1 ought to be just taken on as a transmission owner
2 project or an ISO project, and then just rolled
3 into the ratebase.

4 I skipped a slide there, excuse me.

5 Under today's system there are some
6 problems for generators actually owning
7 transmission. A generator, if it's going to pay
8 costs of transmission and has, there is no
9 mechanism for reimbursement set up. At least I
10 think the generator's going to want to have rights
11 to the transmission tantamount to owning it.

12 For instance, if I've wanted to build a
13 generator and get my power across a certain path
14 that is congested, and it costs \$50 million to
15 build a transmission to relieve that congestion, I
16 want to claim the rights to get my power over that
17 transmission. I want the rights to that. And
18 tantamount to ownership.

19 But today I cannot own transmission as
20 an electric wholesale generator. If I own
21 transmission that's used for basically utility
22 purposes, that blows my EWG status.

23 Another problem with this is that let's
24 say take again this example, this \$50 million
25 improvement, and let's say this \$50 million

1 improvement provides 500 megawatts of capacity.
2 Those facts are going to be inarguable based on
3 the study. But what can be argued about is how
4 much my improvement contributed to that 500
5 megawatts.

6 Typically what you face, and this is not
7 just generators, but any situation where one party
8 builds a transmission that increases capacity, and
9 there is another party that also has parallel
10 transmission, they'll argue between themselves,
11 well, the existing owner will say, well, you
12 couldn't do that if it weren't for my
13 transmission, and I'm just holding you up. And I
14 ought to get part of that new capacity. So, this
15 drags on and on.

16 And also, as I said before, the benefit
17 personally to my one generation project may not
18 justify that reinforcement. So that alone may not
19 do it. And so it's difficult to craft a market
20 mechanism.

21 I think this is more properly would be
22 more workable in the traditional transmission
23 company approach to things. Determine whether
24 it's beneficial to the ratepayers, and if it is,
25 do it.

1 And my final remark is that reliance on
2 the market to sponsor economic transmission
3 reinforcements, I think, is a prescription for do
4 nothing, and experience has shown us that that's
5 often the wrong approach.

6 PRESIDING MEMBER LAURIE: Do you have
7 any thoughts about -- there's an assumption that
8 the generators certainly want to avoid any
9 circumstance where they are being limited by the
10 government as to what sites they can build on.

11 Do you see any advantages to doing,
12 whether it's the Energy Commission or ISO or any
13 other body, of doing statewide planning from a
14 perspective of seeking to coordinate all of the
15 factors that go into licensing of, or the ability
16 to build power plants, and insuring infrastructure
17 is available?

18 Or do you think from a generator's
19 perspective you'd much rather just do it,
20 yourself, and worry about transmission lines when
21 you need it, worry about water when you need it,
22 worry about gas when you need it?

23 If we pretend for a moment that our sole
24 obligation here at the Energy Commission is to
25 make life easier for power generators, is there

1 anything that we could do, from a planning
2 perspective, including transmission, that would
3 make your life easier? Recognizing that that is
4 not our sole mandate.

5 (Laughter.)

6 MR. FILIPPI: Yeah, I guess I've been
7 thinking about it in somewhat different terms. I
8 think it probably comes out to the same place.

9 I think the more planning that is done,
10 that it is transparent to the generators where
11 there are good places to go and what the limits
12 are probably would help.

13 I think with these buttons I must have
14 slipped over a few slides that I thought I had in
15 there. One of the things I have problems with,
16 the current system with congestion, is that I can
17 find a good spot and after I find the spot and I
18 file my application, there will be four or five
19 others that think that that's a good idea, as
20 well.

21 And, you know, by the third or the
22 fourth, it's not such a good idea anymore for any
23 of us, probably.

24 And one of the problems is that the --
25 and I think if developers know that there's

1 congestion they're going to avoid it. But there's
2 a time lag, and so by the time it's apparent that
3 congestion is out there, is going to be a real
4 problem.

5 There's probably too many projects
6 already started down the path of trying to site
7 their project there.

8 So I think information that makes it
9 more evident what the capacities of the system
10 are, and where, from an electrical standpoint, to
11 connect generation, I think it would be good for
12 the state to guide, give the generators that
13 guidance.

14 Now, I've been thinking about it from
15 the other side of it, and that is I think there
16 needs -- I'm more concerned about the load than I
17 am the generators, with my WSCC hat on. That
18 people have the obligation to serve their load,
19 they need to plan ahead. And they need to figure
20 out how they're going to secure the resources.
21 And access to those resources to serve their
22 loads.

23 And my concern is, you know, with a
24 four- or five-year planning horizon they really
25 can't do that job. And they need to be more

1 proactive when they're facing -- they need to
2 confront whether they're going to have to build a
3 new -- a large transmission line that's going to
4 take seven or eight years to build and permit.

5 They need to confront that early. They
6 need to consider alternatives early. And they
7 need to be proactive about seeing if there are
8 alternatives to building that line. And be
9 willing to fund, contribute to the funding of
10 alternatives to build that line.

11 Because I forget who said it, I think it
12 was Jeff said that earlier, you know, what is the
13 economic incentive for generation to build in load
14 areas these days? There's none.

15 I mean from my personal standpoint and
16 my company, I've told the developers, you know,
17 building near load is a great place to be. It
18 provides a lot of benefits and you won't have to
19 be worried about congestion.

20 And then they ask me, well, how often is
21 it going to be congested. What am I going to be
22 paid to offset all these extra costs I'm going to
23 have going in here with all the air problems and
24 the fuel costs.

25 And I just don't have the answers,

1 because today there is no mechanism. The
2 Pittsburg contract, that plant out there was a
3 good start. But, I think we need to go a lot
4 farther down that road if we're really serious
5 about trying to get generation closer to load.

6 To doing something besides just finding
7 the cheapest, easiest place to put a generator.

8 PRESIDING MEMBER LAURIE: Thank you,
9 Jim. Any questions?

10 COMMISSIONER PERNELL: No.

11 PRESIDING MEMBER LAURIE: Thank you very
12 much.

13 COMMISSIONER PERNELL: Thank you, Jim.

14 PRESIDING MEMBER LAURIE: Excellent. Is
15 Jeanne Holman here? No. From PUC.

16 Any members of the audience wish to ask
17 questions or comment at this time? Sir.

18 Yes. Let's have this gentleman go
19 first.

20 MR. MUKHERJEE: I'm Shishir Mukherjee
21 from the City of Palo Alto Utility. I'm stating
22 my personal opinion, not of my employer.

23 I believe in --

24 PRESIDING MEMBER LAURIE: The City of
25 Palo Alto, did you say?

1 MR. MUKHERJEE: Palo Alto Utility, the
2 City of Palo Alto Utility.

3 PRESIDING MEMBER LAURIE: Okay, thank
4 you.

5 MR. MUKHERJEE: I believe in California
6 when deregulation was planned, it was that time
7 the state should have taken over all the
8 transmission. And I believe it's still a good
9 idea for the state to have a transmission agency,
10 or a transmission authority who plans and build
11 new transmission, like a new highway system.

12 And that is the only condition under
13 which deregulation will work, competition will
14 work.

15 PRESIDING MEMBER LAURIE: Do you not
16 have any confidence that the current system could
17 be properly administered and coordinated to avoid
18 many of the problems that we've heard discussed
19 today?

20 MR. MUKHERJEE: Well, the experience
21 until today shows that it is not working that way,
22 most of all that there hasn't been much
23 transmission built, you know.

24 First of all, even before deregulation I
25 think the utilities used to balance transmission

1 against generation. And for places like San
2 Francisco Bay Area, inadequate transmission has
3 been built. And as a result we have to pay large
4 amount of RMR costs because there were local
5 generators which had to be done, because there was
6 no transmission to get power into those areas,
7 those pockets.

8 And over that, when deregulation was
9 started, that changed the way power flows.
10 Because now you have generators coming from a very
11 long distance who are selling power, you know.

12 So the old transmission grid got
13 saturated very soon. So, within a few years, and
14 I believe Jeff Miller will agree with me, that
15 conditions started growing very fast. Not much
16 faster than the demand growth.

17 So that leads us to believe that
18 deregulation and competition changes the way the
19 power flows because previously it was three
20 different utilities which were planning their
21 transmission to serve their own load.

22 There was not a California-wide grid.
23 The only grid that was there was a north-to-south,
24 you know, grids, you know, to get power from the
25 northwest or from the southwest.

1 Now, I know of many counties which does
2 have this transmission authority. I know in India
3 there is a grid corporation which plans the
4 majority of the bulk transmission for the whole
5 country, and operates it.

6 So I think a system like that is needed.
7 Now, whether ISO wants to do it or not, you know,
8 it could be the ISO. But I think ideally it
9 should be probably a state authority, because that
10 will be regulated company, or regulated
11 organization, which will then generate this
12 tariff.

13 The other thing that I wanted to say,
14 and I don't know whether there was discussion
15 about that, that the need for transmission is very
16 closely linked to the kind of tariff policy you
17 have.

18 And I think we have a wrong type of
19 tariff policy also. Because we have a tariff
20 policy which is essentially a postage rate --

21 PRESIDING MEMBER LAURIE: Okay, I'm
22 sorry, what --

23 MR. MUKHERJEE: The transmission access
24 charge, you know, is a postage rate, which means
25 that the transmission cost doesn't depend on the

1 distance to which you are sending transmission.

2 So you pay same thing whether you're transmitting
3 100 miles or 1000 miles or 2500 miles.

4 And this is one of the reasons why
5 there's increased condition, because we are not
6 using the transmission grid efficiently. So there
7 should be some link with the transmission tariff,
8 you know, --

9 PRESIDING MEMBER LAURIE: And that's a
10 FERC issue, is it not?

11 MR. MUKHERJEE: Yeah, that maybe
12 something that FERC wants to do, and I don't know,
13 they wanted -- first of all they wanted an ISO-
14 wide postage rate. And tomorrow they might want a
15 nationwide common rate, so that you'll be sending
16 power from here to Boston, and pay the same thing,
17 you know.

18 PRESIDING MEMBER LAURIE: Do you live on
19 a public road or a private road?

20 MR. MUKHERJEE: On a public road, yes.

21 PRESIDING MEMBER LAURIE: Okay. If you
22 were to live on a private road, you'd be
23 responsible for maintenance. And what you would
24 find is when all your neighbors get together and
25 you say, oh, man, we have to fill the pot holes

1 and we have to put in another layer of asphalt,
2 you'll start at the entrance to your street, and
3 you'll go to the cul-de-sac at the end of your
4 street, and Mr. Tomashefsky lives in the big house
5 on the cul-de-sac will pay more than poor me who's
6 sitting at the entrance, because he uses more of
7 the street than I do.

8 That is how it would normally be done.
9 Therefore, the maintenance costs for the entirety
10 of the street is more than the maintenance costs
11 of just what I use.

12 MR. MUKHERJEE: Yeah, that's true.

13 COMMISSIONER PERNELL: But if -- let me
14 just follow up on that. Given the California's
15 challenge and the fact that there's generation
16 being -- and using your scenario that there's
17 generation being generated in the state and sold
18 outside the state, if a scenario, what you're
19 talking about, in terms of paying for how long
20 your, the microns are on the wire, of course I
21 don't know whether that would help California or
22 help whoever owns the wires, but again, it would
23 be an additional cost that the generators would
24 think about, in this case, before they decide to
25 run it the long distance.

1 So there's kind of two sides to each
2 coin here, and I don't know the answer to it, but
3 I think you bring up some good points.

4 We'll just give it all to the ISO.

5 (Laughter.)

6 MR. MUKHERJEE: Okay.

7 PRESIDING MEMBER LAURIE: Thank you, sir
8 Yes, sir.

9 MR. SMITH: Good afternoon, thanks for
10 giving me a few minutes. My name is Mark Smith.
11 I'm with Florida Power and Light's subsidiary, FPL
12 Energy, and as you know, we're in the process of
13 attempting to permit a project about 15 miles
14 north of here, up in Rio Linda.

15 I'd really like to make two comments
16 that follow up on Mr. Pigott's comments, actually.
17 And respond to a couple of the questions that
18 you've asked.

19 And the first is whether or not to trust
20 the market to bring forth generation proposals. I
21 sensed from you some distrust that the market
22 would do that.

23 PRESIDING MEMBER LAURIE: No. You --
24 No, I do not distrust the market to bring forth
25 generation proposals. I distrust the market to

1 determine, from a long-term planning perspective,
2 where the new development should properly be,
3 because each developer will serve only its
4 particular needs at that particular time.

5 So, no, I'm more than willing to let the
6 market determine whether or not any marketeer
7 chooses to come forward. It's a question of
8 whether you should do Houston type of land use
9 planning or some other type of land use planning.

10 Should we think about where the
11 constraints are and plan for it.

12 MR. SMITH: Very good, so I see very
13 little disagreement in our approach then, and
14 indeed, probably the generation community is a bit
15 short-sighted or myopic in that regard.

16 The generation community is looking for
17 sites that it will be able to develop and engage
18 in profitably over the long term, not necessarily
19 a 20-year planning horizon, I would suspect, as
20 has been the case with utilities.

21 So, thank you, I was surprised and
22 concerned over my interpretation, and it was
23 incorrect.

24 PRESIDING MEMBER LAURIE: Over my gross
25 inability to articulate.

1 MR. SMITH: The second point I'd like to
2 mention that's been an issue that we've talked
3 about here is the issue of whether or not there is
4 a single agent or agency that has the ability to
5 build, plan and operate electric transmission, and
6 I'd say clearly the answer to that is no. There's
7 not one single agency that faces the proper set of
8 incentives nor has the ability to raise capital
9 and invest in the transmission network throughout
10 the State of California.

11 Now, I would question whether or not the
12 proper solution to that is complete state
13 ownership. I think our position probably would
14 rather be that a single agent that has a profit
15 motivation, as has been proposed in other parts of
16 the United States, would be more appropriate.

17 Thank you. Those are the two points
18 that I would like to make.

19 PRESIDING MEMBER LAURIE: Thank you,
20 sir, very much.

21 Yes, sir.

22 MR. FISTORARO: Thank you,
23 Commissioners. John Fistoraro with the Northern
24 California Power Agency. I really did not plan to
25 make a comment here today. In fact, I'm covering

1 the meeting for other people -- persons, actually,
2 who deal with this matter, but are serving on jury
3 duty up in Placer County. But, --

4 PRESIDING MEMBER LAURIE: Tell us about
5 the Northern California Power Agency.

6 MR. FISTORARO: The Northern California
7 Power Agency is a joint powers agency of municipal
8 electric utilities, ranging our southernmost
9 member from Lompoc up through the valley, Lodi,
10 Roseville, as far as Redding and Ukiah, also
11 serving the Bay Area, Alameda, Palo Alto and Santa
12 Clara.

13 Mr. Mukherjee needn't be so shy in his
14 support of a publicly owned, not for profit
15 transmission company. NCPA and the California
16 Municipal Utilities Association has, in fact,
17 endorsed the concept of a not for profit
18 transmission company in --

19 PRESIDING MEMBER LAURIE: As opposed to
20 the State of California?

21 MR. FISTORARO: The State of California
22 could, in fact, serve in that capacity. We have
23 also offered alternatives to the management of
24 such a company. Something similar to a joint
25 powers agency like NCPA, or a sister organization

1 of NCPA, the Transmission Agency of Northern
2 California, who, as you have asked for specific
3 examples of projects that would relieve
4 transmission in the state, TANC, the Transmission
5 Agency of Northern California, has proposed to the
6 Governor's Office, to the Legislature and I
7 believe staff here at the Commission, one project
8 identified as Path 15 for construction.

9 And TANC has offered either to be the
10 lead contractor to build that project for the
11 State of California in cooperation with Western.
12 Or, you know, certainly identify and partner with
13 the State of California or PG&E.

14 But we feel that that is really a top
15 priority for congestion relief in the State of
16 California. And as the Rainbow project was
17 identified, I felt that it was incumbent upon me
18 to get up and at least identify the Path 15
19 project as a necessary improvement to the
20 transmission infrastructure within the State of
21 California. And we believe, really, in the
22 western grid.

23 PRESIDING MEMBER LAURIE: Thank you,
24 sir.

25 COMMISSIONER PERNELL: A question. On

1 Path 15, from the -- I'm hearing that it takes
2 anywhere from seven to eight years to plan and
3 build a sizeable transmission facility, freeway,
4 super highway.

5 How long would you think it would take
6 your organization, or whether you've thought about
7 how long would it take you to complete Path 15?

8 MR. FISTORARO: I'm glad that you asked,
9 Commissioner Pernell. TANC has, in fact, to
10 facilitate this project, and to show their
11 seriousness about the need for the project within
12 the transmission grid in California and the
13 western United States, has committed resources
14 already to begin the environmental review to get
15 this project started, so that we do not lose
16 another year in its construction.

17 But, best case scenario, and this would
18 be a very best case scenario, TANC believes, with
19 the assistance of the federal government, Western
20 operating as the lead, TANC operating as the
21 contractor, and cooperation of the state, that by
22 the end of 2002 the project might be able to be
23 completed.

24 That would be a best case scenario.

25 COMMISSIONER PERNELL: Does Western

1 agree with the timeline, or --

2 MR. SABET: -- optimistic view --

3 (Laughter.)

4 MR. SABET: Be better --

5 MR. FISTORARO: I did say a very best
6 case scenario.

7 MR. SABET: The point is you have to be
8 realistic. We have estimated two to three years,
9 and upon the time that the money's deposited, and
10 the commitment is made, to the -- and that is also
11 have come caveat because, you know, it all depends
12 how you -- determine this, you know. But a --
13 consultation is going to be done initially --
14 there's a whole lot of -- but, building the line
15 probably -- unfortunately, planning the project is
16 more of -- than building it.

17 I do agree with that. Once the project
18 is defined and the financing is arranged, building
19 the project is easier because the job is
20 described. Whereas, you know, in this day and
21 age, you know, that kind of a commitment is kind
22 of hard. When you referred to, Commissioner
23 Pernell, seven or eight years, that was basically
24 to get critical mass and coalition to fund the
25 project. And that's usually the problem.

1 But once the project is defined, it is a
2 lot easier to do.

3 MR. FISTORARO: One other thing that --
4 excuse me.

5 COMMISSIONER PERNELL: So you're -- I'm
6 sorry -- you're estimating maybe three years, 2003
7 or '4?

8 MR. SABET: That's what I think; it will
9 be two, three years, depending on whatever we have
10 to do the determination.

11 COMMISSIONER PERNELL: Okay.

12 MR. MILLER: I just wanted to point out
13 that for that upgrade on Path 15, the
14 environmental work had already been done about 15
15 years ago. In fact, the environmental documents
16 were certified by both state and federal lead
17 agencies.

18 So that's why you can go back and update
19 those documents, and you can get this line in
20 place much earlier than the six years.

21 COMMISSIONER PERNELL: And expedite it a
22 little bit.

23 MR. MILLER: Six years is for a brand
24 new line where you haven't done all the
25 environmental work.

1 COMMISSIONER PERNELL: Right.

2 MR. FISTORARO: And that is what TANC
3 is presently, or has initiated. It's just the
4 dusting off of the environmental work that has
5 already been done. They have surveyors in the
6 field right now doing spring counts, so that, you
7 know, that can be completed, continue through the
8 summer, if there, you know, is a commitment on the
9 part of the state or the federal government to
10 come in with financing, or to partner with TANC or
11 PG&E or some other contractor, to make certain
12 that the project is committed to and gets under
13 construction.

14 One final thing that I will say is NCPA
15 and the members of TANC have advanced this
16 concept, not only here in the state, but in
17 Washington, D.C., as well, with members of
18 Congress, with FERC, with the Vice President's
19 Task Force on Energy Issues.

20 And there seems to be, you know, broad
21 support for the project. It's just a matter of,
22 you know, who moves first, federal government,
23 state government, federal government, state
24 government.

25 And our response from the federal

1 government is that there really needs to be a
2 commitment on the state level to the project
3 before they will follow with support, but they
4 recognize that the project is worthy of support.

5 COMMISSIONER PERNELL: I know that
6 everything I read, and certainly our analysis say
7 that that's a critical path that we need to be
8 looking at. So, you know, hopefully, I don't care
9 who moves first, I just want somebody to move.

10 MR. FISTORARO: That is fundamentally
11 the position of NCPA and TANC, as well. We have
12 advanced it as an issue. We're willing to take
13 the lead on the project, for the State of
14 California, for the improvement of the
15 infrastructure.

16 We have no particular, you know, vested
17 interest in doing that, other than it certainly
18 relieves congestion within the State of
19 California, that, you know, will benefit municipal
20 customers which we serve.

21 But if PG&E can get it done faster, if
22 Western can get it done faster, we're not
23 concerned, as long as it's completed, and
24 completed in the most expeditious way as possible.

25 COMMISSIONER PERNELL: Thank you.

1 PRESIDING MEMBER LAURIE: Thank you,
2 sir. Our friend from Aspen.

3 MR. SCHEUERMAN: Good afternoon. My
4 name is Paul Scheuerman and --

5 PRESIDING MEMBER LAURIE: Afternoon,
6 Paul, good to hear from you.

7 MR. SCHEUERMAN: I work with Jim
8 McCluskey in developing the issue paper for
9 today's workshop. And in doing that, focused on
10 one thing that a number of the speakers have
11 talked about today, but I'm not sure anybody has
12 really quite clearly articulated my concern.

13 And it has to do with the remedial
14 action schemes. Jim Filippi, as he usually does,
15 nailed it solid. He said it's a solution for
16 infrequent contingencies. Two key words,
17 infrequent and contingencies.

18 My concern is that we might be using the
19 remedial action scheme for something that may not
20 necessarily be a contingency.

21 Example: Transmission lines generally
22 load up as we get into the summer peak times.
23 Most of the time those lines are quite capable of
24 taking the full output of a new power plant.

25 But as they tend to load up, I think

1 there's some tendency there to drop the generation
2 back to maintain the lines within their ratings,
3 either normal or emergency.

4 And what this is doing actually is
5 saying yeah, we can run the plant 90 percent or 95
6 percent of the time, but as we get into the peak
7 periods, and maybe it's not this year, maybe it's
8 next year or two years down the road, where these
9 facilities, these transmission lines start to
10 overload, or reach their limits, we're going to be
11 turning down these plants, I'm afraid, right at
12 the very time of the year when we need them the
13 most.

14 Now, that's not to say we shouldn't get
15 them on line and use whatever is necessary to run
16 90, 95 percent of the time. But let's make sure
17 that we don't dig ourselves into a deeper hole
18 here so that two or three years from now we find
19 ourselves having to turn down generation when we
20 need it the most.

21 PRESIDING MEMBER LAURIE: And what do
22 you propose is the feasible alternative?

23 MR. SCHEUERMAN: I think the alternative
24 is that at some point you have to look at this as
25 almost like in the terms of environmental

1 mitigation, where yes, you build a project, you
2 get it going and everything, but then at some
3 point you have to come back in and fix some
4 problems.

5 And the fix being, you know, basically
6 additional wire, new transmission lines someplace,
7 in some new corridor maybe.

8 But I think we just have to keep that in
9 mind that we can't go and license and put a whole
10 bunch of power plants out there generating, and
11 expect that we'll have them all operating at the
12 time of summer peak, if we are expecting to also,
13 you know, put them under some remedial action
14 scheme.

15 COMMISSIONER PERNELL: Western has a
16 comment.

17 MR. SABET: I was going to suggest I
18 don't disagree with Paul, that was, as a matter of
19 fact, exact recommendation we made to the Sutter
20 case, if you look at it. We recommended as a
21 stage one and stage two partially because we have
22 this who goes first kind of a discussion.

23 We basically sponsor the opinion that
24 phase two should be basically funded by Calpine
25 under area -- there was some general agreement to

1 move with this issue. But unfortunately that
2 didn't happen, and now we are again just in that,
3 I'm looking at it.

4 In deference to my friend, Jim, -- my
5 focus was only on the power plant siting, I wasn't
6 talking about systemwide application. I was
7 saying if you continue -- application on power
8 plant as a mitigation for power plant, that is not
9 sustainable in the long run. You got to fix the
10 transmission.

11 PRESIDING MEMBER LAURIE: Give me that
12 last sentence again?

13 MR. SABET: In order to site every power
14 plant instead of fixing the major infrastructure
15 remedial action, I don't think that's sustainable
16 in the long run.

17 We have to fix the infrastructure. We
18 are at that point right now. That is why Western
19 is taking the initiative for that global EIS
20 looking at several transmission lines whether the
21 generation is located or not in the area. We are
22 going to proceed with one of those options.

23 The question is the funding, you know.
24 We are definitely going to go for the funding,
25 ourselves. But if we don't get it, then we have

1 another bridge to cross.

2 But we are not stopping, or we're not
3 taking, you know, any pause on this issue because
4 it's serious enough. Our customer are supporting
5 us, but like I said, today we're getting only
6 applause, we haven't got a dollar yet.

7 But I'm hoping the funding will come
8 once we go through the environmental process.

9 But I want to make sure that, you know,
10 we don't mix this RAS scheme. There are time and
11 place for anything in life. You have to look at
12 your risk and benefit. And that's what this
13 decision we make. But I don't endorse it for long
14 term.

15 PRESIDING MEMBER LAURIE: Anything else?
16 Any other comments, Paul, that you wanted to make
17 at this time?

18 MR. SCHEUERMAN: That's all I have now.

19 PRESIDING MEMBER LAURIE: Appreciate
20 your efforts on the paper, as well.

21 Any additional comments by any members
22 of the public?

23 Gentlemen of the panel, excellent and
24 very helpful. We appreciate it, we appreciate your
25 time. And we thank you.

1 And I guess the meeting will stand
2 adjourned. Thank you.

3 COMMISSIONER PERNELL: Thank you for
4 coming.

5 (Whereupon, at 3:25 p.m., the workshop
6 was concluded.)

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I, JAMES RAMOS, an Electronic Reporter,
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Energy Commission Committee Workshop, and that it
was thereafter transcribed into typewriting.

I further certify that I am not of
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IN WITNESS WHEREOF, I have hereunto set
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